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EDITED AND PUBLISHED BY SAMUEL WAGNER, WASHINGTON, D. C.

AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

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On the Variations of Weight in a Colony.

So long as several factors or elements in any problem operate concurrently, their separate values never having been investigated and ascertained, we are not in a condition to estimate properly, or accurately assign their several contributions to the general result. We can only take the latter into consideration in any process having reference to the particular elements or factors; and if in such case, the inferences thence deduced do not involve any obvious contradiction, we may regard the process as proper and legitimate. Hence, the evaporation of moisture from the honey stores in a hive, the departure or absence of bees, and their presence or return, their loss and consequent diminution of the population, and the quantity of nutriment required for the sustenance of the colony, must be regarded as variable factors, which in the course of a day affect the weight of a hive. That the weight of a hive ascertained at different periods of the day, will furnish evidence showing the general effect of these several influences and of the activity or inactivity of the population; but it does not enable us to ascertain the positive loss or gain of honey. For example (to make myself more clearly understood) if a bee-keeper, at a time when pasturage is plentiful, weighs his hive at 9 o'clock in the morning, and finds the gross weight to be 33 lbs. 10 oz., and and at 9 o'clock in the evening finds the gross weight to be 39 lbs. 10 oz., he would not hesitate, in accordance with popular views, to assume and assert that his hive had that day gained 6 lbs. of *honey;* and this without intending to indulge a spirit of exaggeration, or with any design to palm off on the ignorant as truth an unquestionable error.

According to my observations, when I approach my hive, at 6 o'clock in the morning, in favorable weather, thousands of bees have already gone forth to forage, and the hive weighs from five to eight ounces less than it did on the preceding evening; and it continues to decrease in weight, so that by 9 o'clock we shall occasionally find a diminution reaching fully three pounds. Only then does it again begin to grow heavier, showing that the returning workers, with their gathered stores, are gradually overbalancing the still issuing multitude. At about noon the three pounds apparent loss noted in the morning are again made up; and thence forward, on a fine day, the hive steadily increases in weight from hour to hour, till it reaches its maximum at about 3 o'clock, P. M; for though the outgoing throng, though greatly diminished, still continues its movement, the weight of the hive varies only slightly. Unremitted observations enable me to fix the weight and name the hour with much precision.

At about 7 o'clock in the evening perfect quiet ensues, and the weight of the hive now ascertained, compared with what it was found to be at the same hour the preceding evening, shows how much it varied after the lapse of a day, and now only can we come to the conclusion that the increase, if any, is to be credited exclusively to the honey meantime gathered—the other previously enumerated factors affecting the weight having meantime really served to diminish it.

This relative result (since we may regard the scantily introduced pollen—probably as 1 to 10 in proportion to the honey—need not here be taken in account) is the true value which must serve as the basis of our calculations when the pure gain of honey is to be ascertained. And here let me say that 3½ lbs. is the greatest increase which my very populous colony gave me, in any one day in the last two years.

If then, proceeding from this standpoint, we would present our observations figuratively, we should be struck by the remarkable uniformity which the line representing the measurements obvious with reference to time and weight both in the general term and, when closely considered, in detail also. So, for example, how in summer, the decrease is rapid from the opening season till towards the middle of July, and thence forward maintains an equilibrium. And, still more how, after the blooming of heather to the 15th of September, the weight diminishes at first rapidly then scarce perceptibly; so that in both years, of the diminution of five pounds in weight in the course of the entire months, four pounds were lost in the first half of the period, whilst the loss of the remaining pound occurred in the second half of the period. One might suppose that some temperance society had here brought its just apprehensions into play, and that after wasting hilariously their stores in riotous living

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on first observing their well furnished garners, the population had come to sober second thought and grown suddenly abstemious, for singularly enough from the 15th of September to the first cleansing flight about the middle of February—or during nearly five full months—scarcely four pounds more were consumed.

The BEE YEAR, in this country, might accordingly be sub-divided into four periods, which, though varying much in duration, would still be sharply enough defined by the increase and the decrease in the weight of the hives.

The *first* period begins when spring has fairly opened and its genial influence is apparent on trees and plants, towards the end of April in this climate, and beginning of May, and continues till the first days in June—lasting about four weeks. It supplies the bees with the golden tinted nectar, which, especially where locusts and lindens abound, rejoices the eye and the palate. This might therefore be appropriately called the vernal vintage, for even in quantity it does not fall short of the autumnal gatherings. In 1867, commencing with the 11th of May, it amounted to 21 lbs. in the hive then subjected to our observation; and in 1868, it reached 24 lbs. 12 oz.

Between the 4th and the 8th of June commences the *second* period, during which, notwithstanding the large supplies of pollen carried in for the nourishment of the brood, the diminution of weight is strikingly great. This period continues till heather comes into bloom, or about nine weeks, and reduced the weight of my hive 9 lbs. 1867; and in 1868, when the population had greatly increased, without producing a swarm, the falling off was 12 lbs. 9 oz.

The *third* period, which includes the blooming heather, is much the shortest, lasting scarcely three weeks. It begins, with us, after the first week in August, and closes before the end of that month. It yielded last year an increase of 24 lbs. 14 oz. and was considered pretty fair. This year the increase was only 19 lbs. and must be ranked in the medium class.

The *fourth*—the longest—continues from the beginning of September to the end of April, or thirty-five weeks. In this period, last winter, my hive lost 14 lbs. 14 oz.; and as the diminution continues in the same line to the present day, and there seems to be no reason for expecting any deviation, unless the weather produces a change, the conclusion will be allowable that the consumption of honey will not this season exceed that of the preceding year. Should this prove to be the case, we shall be justified in noting the decrease as well as the increase of the weight of the hive in figures, which might serve the intelligent beekeeper as a guide, showing of how much honey he may deprive his stocks in autumn; and, on the other hand, whether and when it behooves him to feed his bees, if he would guard them from want.

In the *subjoined* table, the beekeeper will find, as the result of carefully conducted observations, a statement which, attentively scanned and carefully heeded, may serve as a useful directory in the management of his colonies.

Tabular Statement showing the Variations in the Weight of a Hive.

TIME.						WEIGHT.							
			From		To	Decrease.				Increase.			
Period.	Year.	Days.	Month.	Days.	Month.	Each sub division.		Total.		Each sub division.		Total.	REMARKS.
						Lbs	Oz.	Lbs	Oz.	Lbs	Oz.	Lbs	Oz
I.	1867.	11	May	31	May	.....	.....	.....	.....	17	15	.....	.....	Spring pasturage.
28 days.		1	June	8	June	.....	.....	.....	.....	2	14	20	13	
II.		9	June	30	June	5	09						
63 days		1	July	31	July	3	08	9	01				
		1	August	10	August								
III.													
19 days.		11	August	29	August	.....	.....	.....	.....	.....	.....	26	14	Heatherbloom
IV.		30	August	30	September	4	15						
245 days		1	October	31	October	.....	10						
		1	November	30	December	1	05						
	1868.	1	January	31	January	.....	12						
		1	February	23	February	.....	15	.....	.....	.....	.....	.....	.....	Cleansing flight.
		24	February	29	February	1	14						
		1	March	29	April	4	07	14	18				
		In	the year 1867-68	.....	.....	.....	.....	23	15			47	13	
I.	1868.	30	April	31	May	.....	.....	.....	.....	20	05			
36 days		1	June	5	June	.....	.....	.....	.....	4	07	24	12	Spring pasturage.
II.		6	June	30	June	8	01							
63 days.		1	July	31	July	4	08							
		1	August	7	August	.....	01	12	10					
III.														
18 days.		8	August	25	August	.....	.....	.....	.....	.....	.....	19	13	Heatherbloom
IV.		26	August	30	September	5								
35 days.		1	October	31	October	.....	121	5	12					

If now, as we must presume was the case, where rational bee culture is practised, the bee-keeper weighed his stocks when he prepared them for wintering, he may, with this table in hand, after deducting tare and the approximate weight of bees, be able to judge very nearly how much honey each colony contains at any particular period. He may see from it, after having deprived a colony in May of its more valuable honey, how much food he must supply from his reserved heather or buckwheat honey, or other adequate substitute. He will also learn from it, much that he has hitherto been unacquainted with; and I shall be amply compensated for my labor in preparing it, if I find that it has been serviceable to any who have not had similar opportunities for making observations.

GORIZZUTI.

[For the American Bee Journal.]

Artificial Honey Comb.

Not a word has been said in the Bee Journal, for some time past, about artificial combs, yet the subject has continued greatly to exercise the minds of thoughtful bee-keepers, and not without certain results. Two different kinds of manufactured comb made their appearance during the past summer. One made of paper saturated with wax, of full depth of cells—a beautiful article to look at, and so like real honey comb as to deceive almost any bee-keeper at the first glance, even when taken into his own hands. The bees, however, were not so easily deceived. They saw through the cheat at a glance, and "would have none of it." At least this was true in three cases to my knowledge. In one case they "cut it into sawdust." In another, it was cut down to the foundation, and the cells rebuilt with wax. And in the third case it disappeared *in toto* from a space three inches square, where a piece had been fastened in with great care, in a frame of brood comb; and the bees had began to fill the space with their own waxen cells. These three cases seem to demonstrate that this kind of artificial comb is not a success.

The other kind, devised by Mr. Quinby, made of metal, with full depth of cells, certainly cannot be cut into sawdust. Whether bees can be wintered in such combs, is an important question, which can only be determined by experience. I would think the conducting power of metal so great as to make it impossible for bees to live in a hive full of such comb. If mistaken in this conjecture so much the better.

I thought and still think, I have in mind an imaginary machine that will make perfect honey comb from wax; but it would be expensive to build, and I have no time and but little disposition to attend to it. Besides, I have lately found that it would conflict with a patent issued some years ago to Mr. Wagner, editor of the Journal, for a process for making artificial comb of wax, gutta percha, or various other materials, or metals reduced to a proper degree of thinness. I have read the patent, and find it very broad in its specifications and claims, and covering, it seems to me, pretty nearly the whole business of artificial comb making. On a recent visit, Mr. Wagner showed me the plates, dies and press for making his artificial combs, or rather comb foundations, as he used them at the time his patent was issued. That the whole apparatus was in working order was proved by our actually making twenty or thirty sheets of comb foundations in a very short time, although we had to stop and admire the beauty and perfection of almost every sheet as it came from the press. It is just *fun* to make them. Besides it is *certain* that the bees will use them. Two combs were shown to me, built by bees in a weak nucleus after queen raising was over, at a time when certainly no new comb would have been built without some such inducement. To say that I was delighted, is to put it in a mild form. I am determined to have one of those machines, cost what it may. I had grown to be pretty well satisfied with the combs in my forty-five hives as the bees have built them, with my assistance in trimming and straightening them—no small task! But I am satisfied no longer. They contain to much drone comb, and (I am obliged to confess it) in a *few* of the hives, there are a *few* frames that I don't trouble much, the combs *look so ugly* down between the frames.—On one point I am determined. I am going to have straight combs, and worker combs, except perhaps a part of one comb in each hive. and I can do this by using one of Mr. Wagner's machines, and at the same time gratify the natural disposition of the bees to build combs. Mr. Wagner says he is satisfied that a swarm of bees will do better on such comb foundations, than they will in a hive of full combs or combs with full depth cells, for, after swarming, bees have a strong inclination to produce wax to build comb, even if wax be not a spontaneous or involuntary product of bees at such a time. The experience of several bee-keepers, related at the North-eastern Beekeepers' Convention, held at Utica, New York last October, seems to confirm such an opinion. There will be other advantages in the use of these combs. They *cannot* break down by heat, or crack by cold; nor can they be broken by the honey extractor—three ways in which I have been considerably annoyed. Moreover, Mr. Wagner has devised a very simple and efficient method of fastening these sheets of comb foundations accurately into frames, so complete that he intends to take out a patent for it. No handling of a comb, no amount of ordinary jolting over even a rough road could possibly detach or break a comb from its frame, when fastened by means of this device; and the whole arrangement secures straight combs beyond a peradventure. It seems to leave nothing to be desired in this direction. I think the strength alone of combs built on such foundations, is a sufficient cause, if they had no other good quality, to justify me in gradually destroying every frame of comb I possess, and replacing it with Mr. Wagner's artificial comb foundations. They are worm-proof, too, as completely as any comb can be; but this is of small account. Worms never disturb strong swarms.

The best part of the story remains to be told Mr. Wagner has determined, after this long de-

lay of nine years, to put his patent before the bee-keeping public. He will have some machines made complete in every particular, embracing some recent modifications and improvements, ready for sale next spring, together with territory for exclusive use of the same. The machines will not be high in price, or beyond the reach of any bee-keeper who has twenty or more colonies of bees, and the materials for a set of ten or a dozen combs will not cost much—in fact, I don't *dare* to say how little. You will be satisfied on that score.

Gentlemen, I think we are about to take another long step forward in bee culture.

R. BICKFORD.

Seneca Falls, N. Y. Nov. 23, 1870.

[For the American Bee Journal.]

The Hive Controversy.

MR. EDITOR:—In the November number of the Journal, Mr. C. Rogers again tries his hand in the "patching" business, making an effort to "patch" up the theory advanced in his former article (in the July number). According to my experience in the bee business and the use of the Langstroth hive, his "patch" work does not fit the facts. Let us see. In the first place, he says—"For wintering in a cellar the Langstroth hive is perhaps good enough." Well, if it is, why fall out with it in early spring, for the bees dying off so rapidly? The shape of the hive has nothing to do with that. Again, he says—"But if a swarm is not breeding enough to make up the loss in early spring, there must be a fault somewhere." Well, suppose there is "a fault somewhere," why did you not point it out and tell us where it is, instead of telling us what "we expect," &c. If the Langstroth hive is good enough "for wintering in a cellar," it comes out with the same advantages as other hives; and Mr. R. has failed to show wherein it is in fault for the bees dying off "in early spring." Again, he says—"When we take bees from the cellar, we expect that they will have brood in all stages." Well, suppose they have, does that prevent the old bees from dying off with old age, or from being blown down and chilled to death with the bleak winds of early spring?—Again, he says—"We expect too that the queen will continue to deposit eggs even more rapidly, because of the excitement produced by the bees flying." That idea, I presume, is peculiar to Mr. R.; at least it is the first time I ever heard that bees flying stimulate the queen to deposit eggs more rapidly. I have known bees to "fly" quite freely when they were on the point of starvation, yet the queen refused to deposit any eggs at all. It is when bees are gathering stores rapidly, that the queen is stimulated to deposit eggs rapidly. But suppose, Mr. R., that the bees "flying" and your "rye meal" did excite the queen to deposit eggs more rapidly, what good would the eggs do when there was not bees enough in the hive to keep them at the hatching temperature? You admit, yourself, that the bees die off very rapidly the first day or two (that they fly), after being taken from the cellar. Why should you expect the bees to be increasing, so soon after suffering such heavy losses? Again, "In deeper hives they do increase, and the deeper the hive the greater the increase." Here is some more of Mr. R.'s peculiar logic. According to that, all we would have to do, is to increase the depth of our hives to have all the bees we desired. One hive would be all that an operator would want. When more bees were wanted we need only increase the depth of the hive, and the bees would soon be on hand. Now suppose we have a hive five or six feet high, would the bees go to the top of the hive to commence rearing brood, &c., or would the queen commence to deposit her eggs at the lower end of the capped honey? And then where would your heat or warmth go? It does appear to me that a hive could be made too "deep." Again, Mr. R. says—"The reason why the shallow hive is not good for early spring, as I understand, is this: as soon as the severe weather is past, we want to confine the animal heat as much as possible, &c. Consequently we shut off all upward ventilation. The coldest part of a hive is near the entrance," &c. Well, suppose it is, what does that prove? I used to hear it said, when I was a boy, in order to have a warm house you must have the ceiling low, or, in other words, a low story. Now suppose your tall hive has the same number of cubic inches that the shallow form has, differing only in shape, what becomes of the same amount of animal heat in the shallow form? Is it not still confined to the hive, and when it rises to the top does it not diffuse itself and warm up just as much surface as it would in a hive ten feet high? Remember, if your bees have any stores (in the tall hive) they are at the top, and the first eggs deposited by the queen will be at the lower part of the capped honey or stores, and the animal heat rises to the top or ceiling of the hive, some distance above the cluster of bees. Then where is the advantage of your tall hive? Again, he says—"The further the bees get from the bottom the warmer they find the temperature," Suppose that is so, what does it prove? Did you ever know bees (in cold weather) cluster high up in their hive among the capped honey? Bees always put their capped honey (in your tall hives) at the top of the hive, and cluster in cold weather at the lower part of the capped honey. No amount of cold air coming in at the entrance, can force them to cluster high up between sheets of sealed honey. But the animal heat generated by the bees does rise to the top of the hive, and the longer the sheets of capped are, the further the bees are from the heat generated by them. Again, Mr. R. says—"These hives being so low, before the bees get out of the way of the cold air coming in at the entrance, they are bumping their heads against the top." Well suppose they do "bump their heads against the top," what does that prove? The heat generated by them certainly cannot get higher than the top, and the bees being there too, they are certainly in the warmest part of the hive. Again, he says—"In a tall hive they can draw up and get well out of the way of the cold air from the entrance." Not quite so, Mr. R.; if

they have any stores above them, they do not advance up. Did you ever know bees in your tall hives to commence rearing brood at the top of the hive? If so, where were their stores? Again, he remarks—"Instead of spreading the brood in a circle, they are obliged to carry it along horizontally, and after all work to a disadvantage." Please prove your assertions, Mr. R. I have examined a great many stocks (in the shallow form of hive) in early spring, when first taken from the cellar, and always found what brood they had, to be in a circle—the largest circle being in the centre. On the next card the circle would be a li'tle smaller, and so on; but never did I see their brood placed horizontally in one card of comb, And as for their working to a disadvantage in the shallow form of hive, we should need some better proof than Mr. R.s' naked assertion. Mr. R. now hits Mr. Alley a slap across the nuckles for recasting some of his former views as to the shallow form of hive. As there might be some inducement for Mr. Alley to change his views as to the best form of hive, I will not attempt to answer for him. The profits of a patent might induce some men to change their views. How that would operate on Mr. Alley I do not pretend to say; but this much I will say, that the Alley hive is no better than the Langstroth two-story glass hive, or his double-story hive. They have the advantage of the outer case. And Mr. Alley's hive is no better for out-door wintering by the frames being reversed. The secret of its wintering well all lies in its outer case. The great objection to the Alley hives is the cost of getting them up. They are a good hive, but they cost too much. If I have to go to that expense, I would get up the double-story Langstroth hive at once. They cost no more and winter fully as well in the open air; and are some better for (pure) surplus honey, as the honey obtained from the Langstroth hive is free from pollen; and the side boxes of the Alley hive opposite the brood, nearly always contain more or less pollen—at least that is my experience. Mr. Rogers winds up by requesting me to explain how the Langstroth hive can be made deeper and still retain about the same number of cubic inches? Well, I will make the attempt, hoping it will prove satisfactory to Mr. R. If I wanted the Langstroth hive deeper, and still the same amount of cubic inches, I would take off one, two, or three of the frames, just as my fancy might suggest, and put the room they occupied at the sides, to the bottom of the hive, dividing the space they occupied equally between the balance of the frames left in the hive. Would you not then have precisely the same room in the hive? (eh!)

B. PUCKETT.

Winchester, Ind., Nov 23, 1870.

Honey is the most elaborate of all vegetable productions.

Bees assist in the fertilization of flowers, by disturbing their filaments, and causing the distribution of pollen.

[For the American Bee Journal.]

The Thomas Hive.

MR. EDITOR:—In the November number of the Bee Journal, current volume, there appears under the above heading, an article from the pen of George Cork, of Bloomfield, Ontario, in which he speaks disparagingly of the Thomas hive, and makes a feeble attempt to disprove the statements made in the Journal in its favor. Justice to myself and to many bee-keepers in Ontario demands that I should notice it; otherwise I would let it pass as unworthy of notice.

As a correspondence of this kind cannot be very interesting to the readers of the Bee Journal, I will be as brief as possible.

Up to the time of the appearing of the above article I had never seen or heard of such a man as George Cork—have never seen an article on bee-culture over his signature in any paper or journal in Ontario, and I venture to say he is not acquainted with one of every hundred bee-keepers in Ontario, and not one of every hundred ever heard of him. Hence the statement, "I know of no person making bee-keeping a business, who uses the Thomas hive," is not worth the ink it cost to print it, as it is of no weight as evidence that the Thomas hive is not the principal hive in use in Canada. To correct the errors or rather disprove the statements, he refers to three bee-keepers who, *he* says, condemn the Thomas hive. I wonder if Mr. Cork is acquainted with any other bee-keepers? From such statements the readers of the Journal might well infer that there were not more than a score of bee-keepers in Ontario. How insignificant his own words make him appear. Reduced to the form of a syllogism, he stands thus: I know of *three* bee-keepers who condemn the Thomas hive; *I* know of no person making bee-keeping a business, who uses the Thomas hive; *ergo*, the Thomas hive is not the principal hive in use in Ontario! Now for a few facts and figures that will enable the readers of the Journal to see the feebleness of the attempt to disprove the statements made in all candor, by those who know whereof they affirm. By reference to my books it can be seen that I have placed nearly six thousand (6,000) copies of my Canadian Bee-keepers' Guide in the hands of bee-keepers in Ontario; I have been and am in communication with something over five thousand (5,000) bee-keepers, a large number of whom have purchased my hive and are now using it, and among them the most noted and successful bee-keepers in Ontario. Some have ordered as many as forty (40) hives at one time for their own use; and as many as one thousand hives have been required for one season's demand. True, some who have used it do not like it, but they are few indeed, and in most cases simply because they were not well enough acquainted with bee-culture to appreciate its advantages. On the other hand, I have scores of letters giving the Thomas hive the highest possible praise, and saying the writers will use no other. The hive has taken the first prize at the Ontario Provincial Fair for the last seven

years, competing at times against six and seven other patterns.

Mr. Cork also gives a statement of his success and the amount of surplus honey taken this season, as proof, I presume, that the hive he uses is superior to the Thomas hive. But instances of better results from the Thomas hive have already appeared in the Journal. I refer to the case of Mr. McLatchie, of New Edinburgh, Ontario, who commenced in the spring with fifty-seven stocks in the Thomas hive, seven of which were very weak. He increased to ninety stocks, and took over 2,500 pounds of surplus honey. Also, Mr. O. Fitz Wilkens, of St. Catherine's, took from one stock in the Thomas hive, 222 pound surplus honey. We hear other similar reports. Will Mr. Cork try again? Mr. Cork says he makes the frames in his hive 8½ inches deep. I suppose the thought has never been begotten in his brain that the Thomas hive may be made shallow: that the depth or number of frames had nothing to do with the advantages claimed for the Thomas hive! Those who prefer shallow hives, construc them shallow; and there are many shallow Thomas hives in use. I prefer a deep hive, and build accordingly.

Mr. Cork closes his article by giving a description of a smoke pipe, and is surprised to see that so many bee-keepers still use a pan of chips, rotten wood, &c. He thinks his smoke pipe, for convenience, cannot be surpassed. Wonderful discovery, Mr. Cork! K. P. Kidder, of Vermont, used a pipe made on the same principle, ten years ago. Mr. Quinby gives a description of a similar pipe in his work published in 1864. I have made and sold a pipe on the same principle (not costing more than one-half of what Mr. Cork's pipe will cost) for the last seven years. Yet I dare say they are not as convenient as a pan of chips or a piece of rotten wood lighted at one end and held in the hand when required. And if Mr. Cork, or any other man, will visit my apiary the coming spring, I will convince him of the fact in one hour's operations among the bees.

J. H. THOMAS.

Brooklin, Ontario.

[For the American Bee Journal.]

The Hive Question.

Under the above head, Mr. Thaddeus Smith gives us a lengthy article in the Bee Journal for November, page 103. As he very particularly refers to my hive, I may be allowed to make a few remarks. He says, "the frames are so large that, in very hot weather, where the hive is exposed to the sun and the combs are full of honey, they break down and fall out of the frames,"

I have used these hives for the last seven years, and the stocks in my apiary have numbered from twenty-five to one hundred. I have opened hives and removed frames under all circumstances, and almost daily for weeks, and during all this time, I have not had half a dozen combs in frames melt down or break down. Mr. S. admits that the "melting down of combs might be prevented by shading the hives," but adds, "the best hive in America ought not to require this." Such a statement shows want of knowledge in the science. The frames in my hive contain about 13½ by 14 inches comb capacity. Now, more than two-thirds of the ordinary box hives throughout this country contain larger combs; yet the number of combs that melt down are very few, and in most cases where they do melt down, the hives are exposed to the sun.

Again, he says, "no hive should claim perfection without being easily provided with extra frames for surplus honey to be used in the honey extractor." I would inform Mr. Smith that just as many frames can be added to my hive as to any other, and just as easily. Some construct my hive with nine frames and some with ten. The number of frames has nothing to do with the advantages claimed for my hive. As for two-story hives, Mr. Smith speaks as if it were a settled fact that frames in an upper story were necessary to a good hive, and necessary for the purpose of taking surplus honey with the extractor, and adds, "no hive should lay claims to being the most perfect hive, without being adapted to such an arrangement." Mr. Smith has an undoubted right to enjoy his own opinions; but with long experience and careful observation, I have finally rejected two-story hives, for any purpose whatever. Others may like them; I do not. This season 142 lbs. of honey were taken from a stock in one of my hives with the honey extractor, and the hive contained only eight frames. The same stock stored eighty pounds in surplus boxes. When Mr. Smith will beat that with his two-story hive, we will add two more frames to the body of our hive, and try him again, certain of success.

Relative to the experiment in wintering, I do not think it at all satisfactory. If it be a fact that bees will winter outdoors in a shallow hive, better than in a tall one, it is time that bee-keepers knew it. Before making many remarks relative to the experiment, I would ask Mr. Smith how the hives were ventilated. Were both the tall hives and the shallow ones ventilated *exactly* alike? If not, state the difference. One stock was lost in the shallow hive—carelessness on the part of Mr. S. There was a large number of dead bees in some of the tall hives, was this carelessness too? Or was it a fact that they contained far more old bees than the other hives? Why should tall hives mould more than shallow ones? How is it that Mr. Smith says, "I have no hives patented or unpatented," while the next paragraph commences with, "I have made a hive on the plan of Mr. Gallup and Mr. Truesdell, which I believe possesses more advantages, and is capable of being used more ways than any hive I have seen described?" A very modest way of saying the best hive made. How is it that Mr. S. has made his hive a tall hive—frames 14 inches deep—if tall hives do not winter as well, do not increase in brood as fast; and do not swarm as early as shallow ones? How is it that he says, "I have given greater depth, &c., because I wanted to winter out of doors,"

when his experiment shows that the shallow hives wintered best. It savors strongly of a thrust at the Thomas hive without good grounds for doing so; but thrust away, you can't hurt it.

Brooklin, Ontario. J. H. THOMAS.

[For the American Bee Journal.]

Bees at Bremer County (Iowa), Fair Grounds. Gallup in a Fix!

On the morning of September 20th, Gallup reported himself at my home in Waverly, as per agreement; and after a late breakfast, the remainder of the forenoon was spent in looking over my bees and showing him the queens in my nucleus hives, &c. After dinner we took a drive to the Bremer county fair grounds and made a few entries with the Secretary of a stand of bees, box honey, extracted honey, a Peabody Honey Extractor and several other things. (I will here say that I expected to have one of M. M. Baldridge's Geared Extractors on exhibition, but it did not make its appearance.) After looking after the stock that was fast coming in, we took a drive in the country, as I was anxious to show Gallup the finest country to be found in our beautiful State of Iowa, that lies in the vicinity of Waverly.

In our ride we came in contact with a drove of cattle, and among them was a beautiful cow with a calf a few days old. I was in want of a fresh milch cow, and on Gallup's judgment I bought this one for forty dollars. I will here thank him for his good judgment in this case, as the cow is a No. 1, and my neighbors call her the Italian cow, I suppose from her very yellow hide or her nearness to my bees.

We soon found ourselves at the post office, and when the mail came in, which was about 4 o'clock P. M., I received ten Italian queens from Adam Grimm, of Jefferson, Wisconsin. We drummed out three black queens that evening and introduced Italians, Gallup style, with tobacco smoke, all in less than an hour's time. I introduced several queens last summer with tobacco smoke, some successfully and some unsuccessfully. The first attempt was made in last July, when I put one in for a little pill doctor. I gave them a big dose, thinking he could cure them if I gave them too much smoke; but some of them, never came to, as he informed me they died of congestion of the brain! But he soon had a fine stock of three banded Italians.

Next morning I closed up a stand of my Italians, to take to the fair, placing them on a spring wagon, with Gallup and myself aboard. When we arrived at the grounds, about three fourths of a mile distant, we placed the hive on a box at the same place where I had a stand opened last year, exhibiting the queen at least a hundred times and no harm done.

I left Gallup to open the entrance of the hive and let the bees out whenever he pleased, and wended my way to the Floral Hall with my honey and other traps. I had hardly reached the Hall when I perceived such a confusion among the teams breaking away, with everybody running and calling for help. I was not long in getting back to my beehive, and the bees were just boiling out. Phew! but were not they mad, pitching into everything within twenty rods of the stand, except the pens of Chester white pigs, and Berkshire and China hogs. I suppose they thought there was plenty of war on the Rhine, and passed them by.

They seemed to have a particular spite at a little short-tailed dog and nearly covered him. The little fussy fellow not having faith enough to roll in the grass and weeds to rid himself of his tormentors, rushed madly in among a crowd of ladies, and such "cutting up" as followed, I never saw before. I could think of nothing like it but driving sheep, when I was a boy in my native town among the beautiful hills and mountains surrounding Danville and St. Johnsbury in Vermont, when the little dogs would come out and scatter the sheep, till they learned how to jump over stone walls and almost climb trees.

I soon found it was no place for me, as the excited folks were loudly taking my name in vain, as well as vociferously blessing my bees. I retreated in good order to Floral Hall, and got behind a 200 lb. squash, which I used as breast work. I had been there only a few minutes before our Mayor (one of the officials, by the way of our Bremer county fair) came and informed me that I must remove those bees, as they would spoil the fair, keeping up the while a brisk fist fight with a bevy of bees that were trying to close up his eyes; all the other good citizens present at the interview keeping his worship in countenance by perpetrating similar military gesticulations and fandagoes, to save their own peepers from temporary occultation. But a fat woman who happened to be present, noted for her good sense as well as lustiness, advised him to get down on the ground in the grass, and the bees would leave him. He, however, having his attention pretty much engrossed at that moment, misunderstood her and supposed she meant he should get down to his best running time. So he started off on the race course and made good time, as his heels showed. Meanwhile a large white bull with harness on, had more bees on his back than he had nerve to stand, and seeing our small Mayor, of some 300 lbs. weight, making such remarkably good time on the race course, broke loose and took the track also, shortening the distance so exceedingly at every jump between him and the Mayor, that in a few minutes bets ran two to one on the white bull. But suddenly he stopped, pawed sand and threw it on his back, before he resumed his onward course, and thus the Mayor made the home stretch ⅔ths of a second ahead of the white bull.

But I must not forget our marshal, who was gate keeper in this interesting occasion. He is a brave fellow, and served his country faithfully four years in the 2d Wisconsin Regiment, and was present at the capture of Jeff. Davis. He retreated in good order half a mile from his post, and kept up a manful fight all the way.

Some dozens of operators, too, busily testing the merits of various machines and ingenious contrivances, each warmly contending that his was the best, suddenly brought their discussions and controversies to a close, by unanimously

deserting their several machines to engage in single combat with Swett's "tormenting bees."

All this time you should have seen Gallup, walking to and fro demurely in front of the uproarious stand of bees, having all the room he wanted, with about a thousand gallant warriors swarming around his reverend head. He looked very much pleased when the officials and others called to him to "close up those bees." "Come and close them up yourselves," was his calm reply; but they hadn't the least notion of trying their hands at so ticklish a business, and kept at a respectful distance, dodging their assailants as adroitly as they could. However, when the time came Gallup closed them up, set them in a wagon and we took them to their home stand. It was a colony I had opened many times last summer, and had shown them to Gallup the day before, and when we got through he remarked that he had not seen the first bee that acted as if it wanted to sting: I asked him what he thought was the cause of their cutting up so, as I was not aware before that I had any such bellicose stocks on the premises. He replied he did not know, but suspected there was a little black blood in them. I suspect there may be some of the *four banded* blood in them, that we have been reading about in the American Bee Journal. (By the way, we readers of the Journal much enjoyed the fun, reading how Novice had to pay five dollars for a few undesirable black bees, that he might get back his half-bushel of Italians that had gone astray. He must have felt good when he got the hive on his back and was homeward bound, little anticipating that it was destined to be burnt up.)

I wish we bee-keepers could have Gallup's photograph as he was promenading around that hive. Everybody thought he was in a fix and would be stung to death; but I am pleased to say that he, as well as myself, did not receive a single sting. The whole occurrence was over in about ten minutes. Then everybody thought they never had as much fun in so short a time in their lives, and the Fair would have been a failure if it had not been for Swett's bees. The next day it rained, and Gallup left for home, leaving hosts of friends who hope to meet him again.

I think if my hive had been set in a lumber wagon, when taken to the fair, and well jolted, the bees would have filled themselves with honey; and have been quiet and peaceable when opened on their arrival. There was not jarring enough for them in the spring wagon. I shall never forget how one poor old lady came to me with both eyes closed up and claims for many other damages which my bees had done to her. I promised to give her a plate of honey and that I would never take bees to a fair again without first pulling out their stings and putting diapers on them.

This was a very good year for bees. They gathered honey largely from basswood blossoms as well as white clover. Some of my young swarms haven given me one hundred (100) pounds of surplus honey. I will let Gallup speak for himself about my two-story hives. He thought them a great improvement on the old Langstroth hive.

I must not forget to tell you of the very pleasant visit I made on the morning of August 31, to J. M. Marvin & Bros, while on my way to Chicago. I left the six o'clock morning train at Geneva and started for St. Charles, two miles up the Fox river. And, oh, what a pleasant drive. The street contains some of the finest residences, gardens, and grounds to be seen anywhere; and at that time in the morning, as the sun was coming up in all his beauty, one must enjoy it, especially after trying all night in vain to sleep, though it was in one of those fine sleeping cars. As I drove into the town all was yet still as midnight but I encountered a man who was making his way to the meat market, of whom I inquired for J. M. Marvin. "Is he the bee-man?" was the inquiry in return: I replied, yes. "Then," said he, "there he is, over yonder in the yard, with his coat off."

I soon had him by the hand, told him who I was and where I came from, and that I must make the 8 o'clock train for Chicago, so that we must talk fast, and at it we went. He showed me his brick house covered with hay and straw, wherein he winters some hundred stands of bees very successfully. We then went into a room, where he runs his extractor with gearing. He went on uncapping and I throwing out the honey. Give me a crank geared Extractor every time. We were informed here that breakfast was ready, and I will only say that I took a square meal—the first in two days.

I was somewhat disappointed in the looks of J. M. Marvin, as I expected to see a man of at least sixty years of age. Reading as I have so many pieces from his pen and admiring them for their good sense and judgment, I supposed he must have an old head on his shoulders. But to my surprise, I found him about my own age, of some thirty-five summers and unmarried. He opened a few hives to show me some beautiful Italian queens of his own raising.

My watch told me it was time I was on my way to the depot, when M. M. Baldridge, Secretary of the National Bee Hive Company, made his appearance. He too is a young man, whom I wanted to see, as he has made his mark among the bee fraternity. With great pleasure to me, he took a seat with me, and we drove to the depot in time for the train. The remembrance of my visit to St. Charles will always afford me great pleasure, and I hope to meet with those gentlemen again when I have more time to spend with them.

Mr. Marvin intended to start next week to the Mississippi river with 100 stocks of bees, that they might gather their winter stores, as the season has been a very poor one with them at home, the white clover having been parched up, and of basswood they have none. I hope to hear through the American Bee Journal how Mr. Marvin succeeded with his bees on the Mississippi river, about 100 miles from home.

I see we are to have a State Bee-keeper's Convention December 15. I am glad to see that; think it is a step in the right direction, and I often feel like stumping Gallup to go with me.

H. K. SWETT.

Waverly, Iowa, Nov. 23, 1870.

[For the American Bee Journal.]

Report from Bethlehem, Iowa.

MR. EDITOR:—I see that neighbor Gallup, and others, have had an extraordinary yield of honey. It does seem strange that a few miles' distance should make so vast a difference in the amount of surplus. Last year Gallup got scarcely any surplus, whilst I, not over eighty miles south, got in one instance 166 lbs. and one swarm; and several of my colonies went over 100 lbs., besides doubling my stock.

This year opened with equally bright prospects. I came through with twenty-six very strong colonies, out of twenty-nine—one colony having lost its queen, and two *weakly* ones played out. The weather was fine in March, and the bees carried in quite a lot of ground oats. April was cold, killing all fruit blossoms. Plums, crab-apples, &c., came into bloom, but it dropped off in a short time. Bees worked very little, scarcely getting their daily rations. I kept on equalizing, and gave what honey I had in frames, left over from last season. I fed about three dollars' worth of sugar. Linden trees did not give over an average crop, or about ten pounds to the hive. We got three rains from April to the middle of August. On the 16th of August the bees commenced working between showers. I was then very busy harvesting, and did not give them proper attention, concluding they would use up a considerable part of the honey they were gathering, in feeding their brood. In the first week in September, I examined them, and found every cell full, with but little brood. I put the honey machine to work, getting out about forty gallons of nice honey. The bees seemed to work all the better for this operation. It certainly looked rather late in the season to be taking honey from the body of the hive; but visions of depopulated hives stared me in the face. The only chance I could see, was to empty a portion of the cells, so that the queens could replenish, and multiply young bees. And, Mr. Editor, they have done it to perfection—plenty of bees, and honey enough to winter on.

I built up and stimulated three stands in American hives, with small frames on top. Their yield was ninety pounds comb honey. I did not take any liquid honey from them.

The produce of my apiary this season is forty gallons of machine honey, one hundred and twenty pounds of box and small frame honey, and a dozen strong hives full, say fifty pounds. Total 610 lbs. and three swarms divided—the result of keeping stocks strong and ready for the harvest when it comes.

F. CRATHORNE.

Bethlehem, Iowa, Dec., 1870.

A man may use the common swarming hives a whole life-time, and yet remain ignorant of the very first principles in the physiology of the bee, unless he gains his information from other sources.

[For the American Bee Journal.]

Report from Jeddo, Michigan.

MR. EDITOR:—The past summer, in this locality, has not been a very good one for apiculture. My bees commenced carrying in pollen on the 15th of April, and the honey season opened with abundance in all varieties of blossoms, so that by the first week in June, almost every vacant cell was filled. I put in my surplus frames and boxes, which they filled very rapidly.

About the last of June we were visited by frequent heavy showers, which seemed to wash all the honey out of the plants, so that strong colonies, after the first of July, did not gather much more than they consumed.

A great many colonies of bees were lost during last winter. Novices in the business lost, in many cases, all they had; while the more skilful lost from fifty to sixty per cent. The summer previous was one of the wettest we have had here for many years, and the honey stored seemed to be very thin and of poor quality, fermenting in the combs in very many cases. Nearly all the bees that were lost, died of dysentery, no doubt induced by the fermented honey.

I commenced last spring with four stocks, which gave me three hundred and fifty (350) pounds of honey, and six swarms. Having no mel-extractor, I improvised one, which works like a charm. By a few improvements which I intend to put upon it next season, I think it will excel any that I have seen, in simplicity, durability, and ease of working. It cost me only seven dollars.

Mr. George Smith, who lives three miles north of my place, has an apiary of about one hundred (100) colonies, principally Italians. He extracted from seven hives, with the honey-slinger, twelve hundred (1200) pounds of honey. This, Mr. Editor, you may think looks a little like boasting, and although it is undoubtedly quite a large yield, I think it is a true and correct statement, as Mr. Smith is a very reliable man.

We find the "*American Bee Journal*" an indispensable aid and guide in all matters pertaining to apiculture; and during the nine months I have taken it, I have been benefited many times the price of it. I only wish that it came twice as often as it does.

GEORGE TODD.

Jeddo, Mich., Dec. 10, 1870.

[For the American Bee Journal.]

The Honey Season in Hancock Co., West Virginia.

MR. EDITOR:—I have delayed writing to you for some time, on account of a visit west to Iowa and Illinois. I took the typhoid fever out there, came home sick, and have not got out of the house yet. I left on the 5th of September, and was gone five weeks.

Being absent part of the season, I cannot give you an accurate account of my whole apiary, but I will give you a statement of one hive, wintered in a foot square of comb, transferred to a new

hive about the 10th of April, and which had not, at that time, more than five pounds of honey in store, and still less when examined again a few days afterward. All my other colonies were in about the same condition—weak in stores, on account of two bad seasons in succession, which we very seldom have in this country.

Hive No. 1 gave me, in box and frame honey, 152¼ pounds; which at 30 cents per pound is	$45 75
One artificial swarm, worth, exclusive of hive	11 00
Swarm yielded 36 pounds box honey, at 30 cents	10 80
Whole amount of profit from one hive..	$67 55

Hive No. 1 contains yet thirty-five (35) pounds of honey, besides the weight of hive, comb and bees, of which I could take ten pounds, leaving them twenty five pounds to winter on.

The hive containing the young swarm weighs eighty (80) pounds. Allowing thirty (30) pounds for weight of empty hive, and ten (10) pounds for weight of bees, pollen and combs, there will remain forty (40) pounds net of honey; so that I might have taken fifteen pounds of their honey and still left them an ample supply to winter on. But after reading H. Alley's report (Vol. VI., No. 5, page 111, Nov., 1870), I thought that if I put it all in my statement, some of our young bee-keepers would perhaps hardly believe it.

My apiary now contains seventy-four (74) colonies, besides five stocks, made up of nucleus hives—five or six put together in a large hive, to winter jointly, and be separated again in the spring, for nuclei, to raise early queens, which are almost always the best. In the spring, when examining the condition of my colonies, to see whether they need honey, or a comb or two of brood, I cut out all the drone comb out of every hive and insert worker comb in its place. Thus I get clear of all early drones, except in such colonies as I may select to breed from. By doing this, and having some good imported queen to get my brood from, I hardly ever fail to get number one queens, of which my apiary is now mostly made up. I must procure another imported queen next spring, to keep up a regular crossing of my stock; as I do not intend that any apiary shall excel mine in bees, hives or condition of colonies, so far as my experience will go.

I have been making artificial swarms these thirty-five years, or more, by the shape of hive, before the movable comb frame was introduced. I have Italianized nearly all the colonies in my neighborhood that are in reach of me, so that I think I have just as good a chance to raise pure queens as any one else.

There are a great many bees in our county; but mostly the common black bee. Many bee-keepers took a decided stand against the Italians when I introduced them in this county, calling them a humbug. I guess that, by this time, they would all like very well to be *bee*-humbugged themselves, since the saw the honey I obtained last summer.

ALFRED CHAPMAN.

New Cumberland, West Va. Nov. 28, 1870.

[For the American Bee Journal.]

Report from a Wisconsin Apiary.

MR. EDITOR:—I have for some time thought of "reporting progress," but being only a novice in bee-culture, I have hesitated lest, peradventure, I should treat my bees so "scientifically" that I might wake up some morning and find them "*non est*," and hear the quotation—"Let not him that girdeth on his harness boast himself as he that putteth it off." But the year 1870 is drawing to a close, and if I report at all I must do it soon.

At the close of last March I removed my eight (8) stocks from the cellar, and placed them on their summer stands. On examination I found they all had more or less eggs and brood in their cells. I was, however, much surprised to find that some of my best stocks had very little honey, and, in fact, were on the verge of starvation—not one of the number having any considerable amount. The first thing in order, therefore, was to equalize the honey, and the next to feed them with dissolved sugar. Furthermore, I found one stock so reduced in numbers that I did not think proper to risk the loss of eggs and brood by giving them a card from another stock. I therefore reduced the size of their brood chamber, and stimulated their queen by feeding till their numbers warranted the aforesaid introduction. They then did better than could have been expected, till all at once their queen was missing. I gave them a card or two of eggs and brood; in due time they raised a queen, and now they appear all right.

I made seven (7) artificial colonies, and had one natural swarm, which came, too, the morning after I had cut out all the queen cells. In this "fix" all I could do was to strengthen the parent stock with eggs and larvæ, and the young swarm with empty comb.

My bees stored up nine hundred and thirty-two (932) pounds of box honey. On the 1st of October I weighed the colonies, and after making allowance for the weight of the empty hive, and subtracting ten pounds (10 lbs.) as the weight of the bees, bee-bread and combs, I found my lightest hive had thirty-one (31) pounds of honey in it, and my heaviest thirty-nine (39) pounds; and that the average per hive was 37 lbs. 3 oz. Now, as they commenced the season's operations with just next to nothing at all in their hives, they must have stored up some fifteen hundred (1500) pounds of honey, besides what they gathered for their own consumption and use in comb-building, and the nourishment of their brood, so as to double their numbers—a result with which I feel that I ought to be satisfied.

The weather continues fine, with the thermometer at 60 degrees in the sun. Bees remain on their summer stands up to date. D. P. LANE.

Koshponing, Wis., Dec. 9, 1870.

The common but ridiculous practise of making a clatter with kettles, tin pans, coal scuttles, &c., when bees are swarming, is utterly useless, and is resorted to only by old fogy bee-keepers.

[For the American Bee Journal.]

Report from Kleinsburg, Canada.

The honey season, this year, has been with us a very good one; but on account of having lost more than half of our bees last winter, the honey gathering force was considerably limited and the result in accordance therewith. Yet we lived in hopes to retrieve our losses by special attention to increase our stock as much as season and circumstances would allow, and in such manners and ways as would enable us to retain the increase, and not have to undo it again, or run the risk of finding myself *minus* of bees in the spring, as was my former experience—the cause having been as I reported in the July number, feeding too late in the fall. I had recourse again this season to feeding for winter, in the case of some stocks which were made as late as July 10th, and had scarcely any stores. But this time I fed them in good season, and not with honey either, at least three of them; but prepared syrup made of loaf sugar, thus :—3lbs. sugar, 1 quart water, brought to a boil, and adding 1 ounce glycerine. Now, as stated on a former occasion, that the glycerine did not prevent crystallization; but then it was left standing in an open bowl, exposed to warmth and air, and only began to crystallize after being thus exposed for several weeks. This I do not now think is sufficient to prove that it could not be safely fed; for if seasonably fed, the bees would seal it over; and as far as I have seen on a recent examination, it appears at this time just as if I had fed honey, though it is now since the 20th of August that the syrup was fed. Thus, after a lapse of three months there is no sign of crystallization yet. Besides, I put some of the liquid in an ounce vial, half filled and corked; and up to this time, no crystals are to be seen. Now, Mr. Editor, you may think it very strange that I should pay so much attention to this little matter; but suppose I find those stocks come out all right in the spring, it will be a great boon to me, and to any others compelled to feed their stocks for winter, when honey is scarce, and at least one-third dearer. I can make five pounds of this syrup, glycerine included, for fifty cents, when honey is here selling at from fifteen to twenty cents per pound. Moreover, as some authors assert that bees need only twenty pounds of syrup, whereas with honey they require twenty-five pounds. Now this is what I am trying more particularly to find out; and if alive and well next spring, will report to you the result.

Last spring I was not a little perplexed. After promising myself to what extent I would increase my stocks, especially those that were so strong in numbers that they were literally overflowing with bees about the first of May, to my surprise I found them, apparently, greatly reduced by the first of June. There seemed to be a sudden diminution in numbers, for from 20th of May to the 1st of June, they were clustering out and doing next to nothing. Some of the stocks having drone brood under way, I expected them to press forward for swarming early, when all at once I noticed that the bees were gone from the outside. On examination, I found rather more bees inside the hive than is usual after a swarm has issued, but less brood than they had previously, for, when I noticed the hive without the usual cluster on the outside, I had suspected that a swarm had left, and that it must have departed unobserved, as I had not watched them diligently enough. I must say, I was fairly puzzled to know the cause of so singular a change, for I had never seen such an occurence mentioned in any writing on bees. At the same time, some of my neighbors, who keep bees on the old-school principles, proclaimed that their bees had cleared out, for they had been hanging out for the last three weeks and had now disappeared. Well, here I stood, scarcely prepared to say that they had not swarmed, nor could I say to the contrary either. I would not have begrudged a five dollar bill had I then been in possession of what friend Gallup wrote in the July number of the Journal, page 10. That I acknowledge is worth a great deal, and I tell you my reason on this ground alone. As soon as I was in possession of it, I thought I could explain the mystery to my neighbors, for to me it was perfectly satisfactory; but to them I made myself, for the time, a laughing stock. Nevertheless, as my bees, as well as those of my neighbors, had done swarming before I was in possession of the July number, yet I had no doubt that mine had not then swarmed and gone off. But I could not say such was the case with my neighbors' bees, till after reading the article written by Mr. Gallup. Then, after reflecting on it, I started off; making the necessary inquiry as to which stocks had so unceremoniously decamped. This being ascertained, I learned that these stocks had afterwards swarmed again, (that being, no doubt, the first or principal swarm) on the 23d of June (the first, or supposed first swarm having left on the 3d of June, if I remember right, as I was told a few days after it was believed they had gone off); and on the ninth day the queen was heard piping; the first swarm they hived being a monster, moreover. Now this could not have been the case if the bees had swarmed at the time it was supposed they did, and three weeks afterward swarmed again. There would then have been none but young queens in the hive, which after that period would not have swarmed at all; and what is still better proof, the piping was not heard till the ninth day after what I consider was the first swarm, came off.

As there exists so much controversy among queen bee raisers—some of whom would have us believe that artificial queens are not as good as natural ones, I will give what experience I have in that line. Though I have not raised queens very extensively, the results appear to me to point in the same direction—that is of non-egglayers, some will not be tolerated when introduced, and some only for a short time. But as I pursued the nucleus system, that is, raising from brood in small boxes, which some style *starvation* system, as I verily believe it is; I have dispensed with it, and tried the raising of queens from the cell, removing it just before hatching, in putting it in a nucleus box with about a pint of bees. And I now find every queen so raised,

last season, prove to be hardy and prolific mothers. One of the number I used in forming a stock on the 20th of August last that had lost its queen by being killed in introducing. Having the young queen caged and placed on the top of the frames for twenty-four hours, and as nearly half of the swarm seemed to enclose the cage, I thought it looked as if they were bound to accept the new mother, and concluded I would liberate her. But in three days after I could not find her. I waited ten days longer, but neither queen nor eggs made their appearance, and as it was late in the season, being the 16th of August, I concluded to break it up, although I had one queen in a nucleus box awaiting the mating with the drones, which were beginning to be so scarce that I kept feeding some stocks in order to prevent their being killed. I succeeded in getting her fertilized, and as soon as she began to lay eggs, I placed her in a cage on top of the frames of the hives that showed such great adherence to their new mother. But this time I tried their patience a little more and kept her caged three days. By that time nearly all the brood was hatched, and the swarm was only one-half as strong as it ought to be at that season; but for experiment's sake I kept it up. On the third day, I liberated the queen, and three days after, being the 23d of August, I had the pleasure of finding eggs in abundance. But, as for the queen, my goodness what a queer sight! I had clipped off the right wing before caging her, and to all appearance the bees must have found fault with it, in this case, as she now had the left forearm off, just a little stump remaining. I suppose they intended thus to preserve the balance in disfiguration! Well, I did not expect much to come after it, but finding her busy laying eggs, I fed them regularly half a pound of syrup, (made as mentioned before) during twelve days, then I doubled the allowance for a week, and by the end of three weeks, she had filled the brooding space. I kept on feeding in that way till the 15th of September, when to all appearance I was going to have the most populous stock in the place; and so it proved itself in fact. But, as you perceive, the entire contents of the hive is *unnatural every way*, with the exception that the queen cell was nearly matured in a populous stock before removal; but not being fertilized in swarming time, and with but one wing and one forearm, and being moreover fed with such unnatural food, and drugged in the bargain; "that won't do" my neighbors *of the natural type* tell me. Well, perhaps they may be right, but I hope to be able to show my No. 4 on its original stand next spring; at any rate you shall hear of it, be the report good or bad.

Well, Mr. Editor, I think I have trespassed the limits of your patience, but trust you will grant me the liberty of saying just a few words more about entire natural queens, of which I proposed to make the only use last season, but I slipped up. Now this is one of the things new to me. I would like to know the experience of some of your correspondents and readers, namely, that out of eleven young queens that I caught from an old box hive which swarmed seven times, I caught first *three*; next day *two* in the forenoon and *three* in the afternoon; on the following day two; and on the next day *one*. Out of some two or three times swarming they invariably returned again, which accounts for so many issues. This is the only box hive I have, and I will put up with it no longer, as it has caused me more trouble and required more watchfulness than any twelve in movable frames. I will, therefore, transfer it next spring. Now, that I may come to the point, I will say of these queens, I arranged them all, singly of course, in nucleus boxes, some with two and some with three combs, 4½ by 6 inches in each, put half a pint of bees of the same hive—that is I made eleven swarms from this box hive, only for the purpose of getting the queens mated; so that, as I might have use for one or more, I would have them in readiness, and have none but natural queens. I found I had to put them in the cellar twenty-four hours, for they swarmed out immediately. The first one and the second, I kept them in a dark place several hours, until they were pretty quiet; then gave them a stand and opened the hive. One by one they left, and all went back to the old hive, till only a small handful remained, and then they went *en masse*. The third I still locked up and kept locked till next morning; and then opened the entrance. The queen passed out three times that day, but was unsuccessful in meeting with a drone. Next morning, when I came, they had just swarmed out and went into a hive that was occupied by a swarm from the same old box hive, being a second swarm hived six days previous. As this hive was furnished with comb, I had difficulty in getting the queen liberated, as she was densely imprisoned and her bees slain. I procured some bees from the old box hive, as they would not likely hurt her. Next day the old box swarmed again, and I got some of the bees and put them along with the queen, as they would stay where put. I kept them confined twenty-four hours, and had them in the box for ten days. She made no attempt to leave to meet the drones, and laid no eggs. She had her forearm off, which I suppose happened when she was among the imprisoning cluster. At any rate, one day I saw robbers storming the box, and what became of that queen I do not know. The fourth queen was duly fertilized, and filled both combs with eggs. She remained seven days, and then swarmed out. I put them back, gauged the entrance three days. After opening it, the first thing I knew they were gone, leaving combs filled with honey, bee bread, and brood, and three drone larvæ in worker cells. The fifth queen did precisely the same. The sixth filled one comb only, leaving two drone larvæ. The seventh laid a few eggs, and skedaddled. So on to the eleventh. Now, queens raised from the cell, and hatched in a nucleus box, never served me thus.

I forgot to mention that, when I started to feed the No. 4 stock, with its crippled queen, I had weighed six other stocks. When all done, on the 1st of October, I weighed them again, and found that this No. 4 only weighed three pounds lighter in proportion to what the others did. That is, it consumed only three pounds more than the others; and while the others had very

little brood in the larvæ state, as the honey yield had ceased since July 13th to a noticeable extent, No. 4 raised all its bees after August 20th, and is the strongest in the whole apiary.

C. WURSTER.

Kleinsburg, Canada, Dec. 8, 1870.

[For the American Bee Journal.]

Bees in Connecticut. Foulbrood.

MR. EDITOR :—The honey season of 1870 has been profitable to those here, who fed their stocks liberally in the spring. During the winter of 1869–70 very many stocks perished in this section, of pure starvation. I examined my stocks about Dec. 1, that year, having then just returned from Europe, and found sixteen with less than five pounds of honey each. I put them in a damp cellar, the temperature of which continued all winter at an average of 33 degrees. Closing all the bottom openings, I left open the large hole in the honey board. Over this hole I piled stick candy, which I purchased at 22 cents per pound. Nine out of the sixteen wintered safely, consuming about three pounds each up to the time of setting out. The other seven, having perhaps less honey, dropped dead, a few at a time, and every time I entered the cellar, I found the bottom board covered with them. In some instances I tried pouring honey in the combs, but the result was mould, and more dead bees than where I trusted to candy alone. Several hives, having more than ten pounds of honey, refused to touch the candy, and wintered splendidly. Among those I lost were my three only stocks of Italians. In the spring I found my twenty-three hives reduced to sixteen ; and several of these were so reduced in numbers, or else queenless, that I finally united several stocks, and commenced the present season with but nine colonies.

I fed liberally and had my colonies strong when our orchards here were in bloom, and the stocks gained in weight in two weeks from forty to sixty pounds each. I now felt that all my troubles and anxieties were over, until one morning I discovered what I believed to be foulbrood. I had never seen the disease, and as it did not seem to increase, and was confined to one hive, I let it severely alone, and hoped it might prove some very mild form of the disease.

I swarmed such stocks as were preparing to do so of their own accord—five in all :—the others have not swarmed this season. I use the Thomas Hive ; and when the clover season began, I placed surplus boxes on all but three of the hives ; and though I fixed comb to induce them to begin, they would not work in them. On the three remaining hives, I placed boxes containing six frames each, filled with comb and five inches deep. The honey-board was removed, so that the hive was practically just so much taller. These frames were filled almost immediately, and I emptied them twice a week with the "emptier," taking out twenty quarts in two weeks. They ought to have been emptied oftener, as they were always full when I examined them. I think now that I also erred in not emptying the frames in the hives themselves. As the season was now almost over, and I had again to leave for a trip to Europe, I made similar boxes for all the hives, and left them to work their will on 2½ acres of buckwheat sown on very rich ground. There was no other buckwheat in the neighborhood ; yet when I returned I found all the hives well filled, and the frames in top boxes also filled with sealed honey, much of it in new comb. So far, I felt the season a grand success ; but on a careful examination in October, I found six hives badly affected with foulbrood. You kindly suggested I should try the remedy proposed by Dr. Abbe. I have done so, and now report my progress so far. I first procured an "atomiser," price $3, and then a pound of the extra refined hyposulphite of soda. Thus armed and equipped, I commenced by thoroughly spraying the combs in a spare hive from which I had taken a queenless colony. I found this hive without any trace of the disease, and as soon as it was ready, I put into it a diseased stock, and proceeded to clean its combs, ready for the next. After spending four hours on one comb, I came to the conclusion that man's life was too short for cleaning out each cell and every comb, if badly diseased. I then cut out all the badly diseased comb, contenting myself with thoroughly spraying all the rest of the comb. Where only a dozen or two cells were affected, I treated them as the Doctor prescribes. Of course most of the combs were free from diseased cells. After thoroughly spraying all the combs, I put in another diseased stock, starting them with a clean house and well purified combs. I reduced the size of the hives by a division board, placing a nice warm quilt on the frames, and over that the honey board. I treated four hives in this manner, and prepared two clean hives for the other stocks, which I have concluded to leave in their present hives till spring, as recommended by Quinby.

I do not venture to suppose the disease is eradicated from these stocks, but I hope it will now be controlable, and that an occasional "spray" will ultimately eradicate it. I propose, in the spring, to wash each hive thoroughly with a strong and hot solution of the hyposulphite, and after that to keep a watchful eye on all my colonies.

My hives being so well supplied with honey, I shall winter out of doors. They are sheltered from the north winds, and fully exposed to the warm sun, which even in midwinter melts the snow from their lighting boards, and warms up the hive several times a week.

CHARLES DAWBARN.

Stamwich, Conn., Dec. 2, 1870.

Wax is used for anatomical preparations, or for making fac-similies of fruits. It also serves the sculptor for his models and studies.

Mead is an agreeable sweet kind of wine made of honey and water, boiled and fermented.

[For the American Bee Journal.]

A Season in New Jersey. No. 1.

MR. EDITOR:—I propose to give you an account of my operations in this place during the past year, though it is mainly only a series of mishaps, misfortunes, or mismanagement, as you may choose to call it.

I feel that I have learned some valuable lessons in this *dear* school of experience, and therefore will try and share my information with your numerous readers.

I left New Hampshire the last week in December, 1869, with sixteen medium and good swarms of bees and about ten small ones, arriving here with the bees in good shape in two days. Fortunately the weather at that time was mild; but by keeping the bees in such a tumult, of course many were destroyed. Here let me say that I took them by Express, and went with them, thus getting better treatment for them than they otherwise would have had. These Express companies sometimes handle things very roughly, and don't always stop to notice whether a box contains live bees, rattlesnakes, or some other harmless rarity; and when you get a swarm aboard, it *may* be right side up, or it *may not* be.

The two days after arriving were fine warm days, giving the bees an excellent opportunity to air themselves. Although I left the ground in New Hampshire covered with quite a body of snow and ice, I here found nothing of the kind, and began to congratulate myself on my escape from a long and tedious winter. Well, just then my troubles commenced. I knew pretty well, or thought I did, how to care for bees in New Hampshire; but New Jersey is a different place, and I soon found a treatment necessary, differing from that which I had marked out.

In a few days the clouds came up, the winds blew, and the rains came; and if you know what that is in Jersey, near the coast, (we are eleven miles from the coast) you know what I did not know before. Nearly every rain storm is accompanied by a vast amount of wind, bringing the rain in nearly horizontal direction, driving it into every crevice possible, and into some where it seemed impossible. I supposed my hives were waterproof, but they were—some of them—incapable of withstanding a Jersey flood. This, then, we will call lesson No. 1, that a hive not perfectly water-tight, should be securely covered. I should have said that none of mine were so wet as to be materially injured.

I had no beehouse, having thought that in New Hampshire they were better off without, than with such a contrivance, and as New Jersey was so much milder, of course no house could be necessary here. Mistaken again! After the rain had cleared away, a piercing west wind began to blow, and having experienced so much from them, I have now learned to have a wholesome fear of them.

It seems quite likely that a long continued piercing wind, which will chill a man worse than a right cold but calm day, will also chill a swarm of bees in the same way. So I carried the hives into a cellar, and built a light fence to ward off the west wind, and in two or three weeks carried them out again. In fact it was troublesome keeping them in the cellar, as it would get too warm when the thermometer rose, as it did outside, to 60 degrees or more, and this in January. Some of the small swarms began to breed in the cellar; and large ones also, I presume, though I did not examine them, as they seemed to be doing finely. But these small swarms, besides being small, had but little feed, and with the frequent disturbances of feeding, warm weather, and some exposure, they soon began to fail in numbers, and some of them died.

I did not have everything as convenient as desired, and could not have it, so I did the best I could under the circumstances. In the latter part of January, I carried out most of the larger colonies, and prepared the remainder for an absence of a month. During February I was away, and on my return found most of the small swarms dead, and also some of the large ones. The sun would shine out warm, though a cool breeze might be blowing; the bees came out and many became chilled before they could return.

This is the third reason why bees should have a house here, especially in winter.

These winds decimated my stocks during the spring months to such an extent as to utterly ruin some, and so weakened the remainder that they did not become strong in numbers until the best part of the spring harvest was over. They would go out to work, and many were unable to return. It does not take a very powerful wind to blow as fast as a bee can fly, and it requires no great calculation to show that against such a wind it would require all the bee's exertions to battle, to say nothing about progress.

From the causes enumerated my bees became reduced by the first of May to six colonies, and those not very strong. These were at that time reinforced with three more swarms from New Hampshire.

I had expected that the winds would trouble them only a short time in the spring, but they continued to be a drawback on them until June.

This article is already long enough, so I will defer writing more until another time.

J. L. HUBBARD.

Bricksburg, N. J.

[For the American Bee Journal.]

Queens Raised from a Young Mother.

The past season I raised only two queens, artificially, from young mothers. One of the mothers was about three weeks old, the other about six weeks. Neither of these young queens became fertile. One of them had three brilliant and well-defined bands, with the dark lines intervening, like a pure worker. She was large and handsome. Among my other queens, raised artificially, and introduced into strong stocks of black bees, four led off swarms. Two of these

swarmed out when the queens had been laying about three weeks. After these stocks had swarmed, three of them were permitted to raise their own queens. The three young queens thus raised became fertile and prolific, and their progeny hardy and industrious.

The number of queens in the above report is small; but as the points involved are about being discussed in the Journal, I give it for what it is worth. As far as it goes it shows, first, that the young queens raised artificially from young mothers were barren; second, that the young Italian queens introduced into strong stocks did not prevent swarming; and, third, that the queens raised from young mothers in full stocks, under the swarming impulse, became fertile and prolific. HENRY CRIST.

Lake P. O., Stark Co., Ohio, Dec. 8, 1870.

[For the American Bee Journal.]

A Swarm in an Airy Position.

MR. EDITOR: – I have a cluster of cherry trees quite close to my apiary, on which many of the bees cluster during the swarming season. August 4th, at night, we had a gale of wind, which blew off a great many pears, and I went to the aforesaid cherry trees, to get a table whereon to spread some of the fallen pears, when I found a large circular piece of honey-comb, containing honey and brood, and covered with bees. On examination I found that a swarm had built their combs among the branches in the centre of the tree-top. F. M. ROGERS.

Nora, Ills., Dec. 3, 1870.

[For the American Bee Journal.]

Questions for Novice.

HONEY EXTRACTOR, HIVES, SWARMING, AND TEMPER OF BEES.

DEAR NOVICE:—Supposing your season's work is now over, I avail myself of your offer to put a few questions. I would much have preferred addressing you directly, as my questions may not be of general interest, but must thankfully receive any information in your own way.

For using the honey extractor (Vol. IV., page 35), you mentioned the two-story Langstroth hive, and the extra set of frames; but more recently (Vol. VI., page 15) you say, "as soon as we get out three or four frames, we commence bringing them back." Has the latter plan superseded the former? And do you mean that you keep each hive open while you uncap and empty all the frames? Do you use smoke in taking out frames? I have never yet attempted to take out more than two or three outside frames, and have not touched any with brood. Do you think I may safely go further? What do you think of hives with legs five or six inches from the ground? This is what I am using, and I think a sloping board might be made to answer the purpose of the sawdust banking. Thinking sawdust a nice, clean thing for keeping down grass about hives, in 1869 I commenced covering the yard with it; but as I sometimes use fire about the hives, I found it dangerous, as the least spark in dry weather sets it going.

I presume you are satisfied with last season's yield of honey; but Mr. A. Salisbury, page 109, says, "top-storing hives are now behind the age." Will you endorse that assertion?"

During the past season I had not much trouble from swarming. The queen's wings were cut, and when about to swarm she was caught and removed; and about eight days thereafter all, or all but one, of the cells were removed, as was desired. I had one or two cases, however, where I supposed I had queens with cut wings, that they swarmed. In one instance the bees settled on the trunk of a tree—not clustering closely, but spread out. I hived them in a new hive, but they at once returned to the parent hive. In examining the hive the next day, I found upwards of *twenty queen cells*, some in the lower story, but chiefly in the upper one.

I find a vast difference in the temper of my bees. Some come at me like a shower of shot, on opening the hive; others (raised from a Langstroth queen) I can go to at any time without annoyance. Yours, truly, TYRO.

Ontario, Canada, Dec., 1870.

[For the American Bee Journal.

Theory and Practice.

MR. EDITOR:—I notice a great many of your correspondents, asking for instruction, say—"Give us practical answers, and not theory." Now, I am a great friend to theory, and dislike to hear it spoken of so lightly. Before I commenced bee-keeping, I purchased Mr. Langstroth's able work, and read it through three times (together with several plagiarians of the same), and there I got my theory of management. Then, without ever having seen a drone, I subscribed for the "*American Bee Journal*," and entered on the campaign of 1868 by buying forty-eight (48) colonies of black bees and an Italian queen. Transferred twenty-nine (29) colonies, and Italianized nearly half of my apiary; also transferred about thirty (30) colonies for neighbors; have moved all my bees twice, and made all my this year's increase artificially; yet I have never had a stock of bees robbed, or in any way lost a colony, when prevention was cheaper than the price of said colony. And this season, I have taken more honey and increase from my bees, than ever was taken in this county before, from the same number, as near as I can learn, although we have *practitioners* here with from ten to forty years' experience.

Mr. Bidwell, of South Haven, (formerly of St. Paul, Minn,) has an odd and original way of doing things, aping no one, adhering to the true theory of bee-culture, the while; and he no doubt has been as successful an apiarian as this county affords. From reports, I conclude that he has outdone all other apiarians in *prevention of swarming*, averaging one year with another only

about eight (8) swarms from one hundred (100) stocks. I am sorry to say that Mr. B. is not at all communicative on this subject. Still I think I gleaned enough from him to guess his system of preventing increase, when desirable, which, with your permission, I will communicate to the Journal at some future time.

I like the Gallup-Langstroth hive the best. I should, however, prefer a tight bottom to a movable one, where careless bee-keepers are so close by, and millers as plentiful as around my apiary.

Now, Mr. Editor, to conclude, I have a question of some importance to ask any subscriber that can answer it. I am talking of making my future home in Colorado. What of that country for bees and bee-culture? Can bees be kept there at all? I am informed the mercury stands at about 30° to 32° in winter, and not above 75° or 80° F. during summer. Have you any subscribers in that locality, or one similar in temperature, &c.? If so, I would like to hear from them, and have their opinion as to honey production there. A friend tells me that wild flowers are abundant, especially wild sunflowers; and no doubt white clover and other honey-producing plants, will also have a footing there as the country becomes older. But the question is, will the bees secrete honey enough in that climate to make bee-culture remunerative?

JAMES HEDDON.

Dowagiac, Mich. Dec. 12, 1870.

[For the American Bee Journal.]

Wintering Bees.

MR. EDITOR:—I notice many articles in the Journal about wintering bees. Mr. J. H. Thomas gives my views exactly. Several years ago, I built a house in accordance with Mr. Quinby's plan, as given in the Mysteries of Bee-keeping, page 329. It was all that could be desired in steady, cold winter weather. But, after two or three years' trial, I found that it was too troublesome in warm spells of weather, such as occur in January or February; as the bees would get up such a heat in the house, that nearly every winter I was compelled to set them out on their summer stands for a day or two, and return them again to the house; though they wintered well, with but little loss.

But the plan I like best, and have followed more or less for the past ten years, is as follows: Set some posts, eight feet long, firmly two feet in the ground—then nail on boards and make a pen, large or small, according to the number of your stocks. A pen, twelve feet square by six feet high, will hold thirty stocks. As soon as it is time to move the bees into winter quarters, I put straw on the ground, six inches thick. On this I set the hives, placing them about two feet from the boards. Then take short chaffy straw or very fine hay, and stuff in between the hives and the boards, as tight and solid as possible, all around the pen, except at the door. Raise the back of the hive two inches higher than the front. Elevate the hives from the bottom board $\frac{3}{15}$ of an inch all round, and open the holes in the honey-board at each end of the hive, leaving those in the centre closed. This is supposing that your hives will take six 6-inch boxes on top, holes for centre boxes closed. Ventilation should be given in proportion to size of colony, as a very large stock will require more ventilation than a small one. Now, as soon as all the bees are moved in the house, and the stuffing is done all around, except at the door, nail on a couple of strips, eight or ten inches above the top of the hives—the hives being set two deep, or one tier on top of the other. Now lay on some poles reaching across and resting on the strips above the hives. Then fill up with straw, rounded at top like a haystack; and thatch with a small load of cornfodder, to keep all dry. Put up some boards at the door, and stuff well with straw; and protect with cornfodder, so as to keep the straw dry. This done, my word for it you will find your bees dry, without mouldy combs; and they will not become uneasy as they do in a tight house. I can build this institution in half a day, put the bees into it, and, as Mr. Thomas says, go about my business,—expecting to take out just as many stocks, all in good order, as I put in. I have wintered, year after year, from twenty-five to thirty stocks, without a single loss. But it must be remembered that I am dealing with good, strong colonies, both in bees and honey.

JOSEPH BUTLER.

Jackson, Mich.

[For the American Bee Journal.]

A Mystery Unsolved!

We find the following from C. T. Smith on page 118 of the Bee Journal:

"I have a few of the two-story hives made by the National Bee-Hive Company, at St. Charles, Illinois, and I cannot get a frame into the top story in any other way than perpendicular, as the top bar of the frame is longer than the inside of the hive."

We have read the above over and over again, and still we cannot understand what friend Smith is driving at. We endeavor to make each story of our hives precisely the same length. In general we succeed to a hair's breadth, but there must be some mistake in the hives sent to Mr. Smith. But how it should happen is a mystery, as the material for our hives is all cut by machinery, *and with the minutest accuracy.* When both stories are of the same length, why should not a frame taken out of the lower story fit into the upper one? the rabbeting in both stories, on which the frames are suspended being also the same. "The *top bar* of the frame is longer than the *inside of the hive.*" We don't doubt that in the least! All suspended frames are in the same fix. But that is no reason why they must be put into the hive in a "perpendicular" manner.

But we must give up the problem, until we have an explanation from Mr. Smith. Meantime please rest assured, friend Smith, that we can help you out of any difficulty respecting the

proper management of our improved styles of the Langstroth hive. The two-story hive, with frames in the upper story for surplus honey, is rapidly coming into general use. The one-story hive, with boxes for surplus honey, is behind the age; although we still make them for a certain class of our customers. The past season we have made about as many of the one kind as of the other; but the coming year we shall make in the proportion of *four* two-story hives to *one* of one-story. More honey can be secured from *frames*, than from *boxes*, and it is in better shape for *extracting*, for *feeding*, and *for the market*. Honey in *frames* will sell for as much per pound in the Chicago market, as in *small boxes*. Perhaps the advocates of 1 lb. and 3 lb. boxes will dispute this statement, but we happen to be posted in this matter.

The two-story hive requires more tact and experience to manage it properly, than the single hive with boxes; but it will not be long before our largest honey raisers will discover the right way.

M. M. BALDRIDGE.

St. Charles, Illinois, Nov. 3, 1870.

[For the American Bee Journal.]

Two Queens in a Hive. Another Instance.

MR. EDITOR:—I send you a little matter for insertion in the Journal, if it is worthy—another instance of two queens being found in one hive.

I see in the October number of the Journal that Mr. A. Green, of Amesbury, Mass., had a case of two queens in one hive. I had a similar experience this season. About the first of July I removed the queen from a native stock and introduced an Italian queen that I had received from W. W. Cary, July 16, 1869. I examined this stock frequently after introducing the queen, and soon found queen-cells started and containing eggs. I removed these cells, as I also did others twice afterwards. On the last occasion one of them contained a larva nearly ready to be sealed over. About the first of September I found two large cells sealed over, and allowed them to remain, as I now thought that the bees were probably trying to supersede the queen on account of advanced age or some other failure, though she did not seem to decrease in fertility, as the colony were now all Italians. On the sixteenth of September, I made another examination, found the cells hatched, and saw the old queen, but did not see the young one. The next day I re-examined them, saw the old queen, and a very large young one on the opposite comb. She was fertile and laying eggs. On the eighteenth, I found the old queen dead in front of the hive. She had apparently not been strong, but had probably dropped upon the bottom board and been dragged out by the bees.

I had another singular queen case in September. I removed the queen from a new swarm and placed her in a nucleus. One day I opened the nucleus and the queen took wing and flew back to the hive from which she had been removed, which was about fifty feet distant, and about the same distance from where the swarm was hived.

This queen was reared and fertilized about five miles frem here, in 1868. She had been very prolific, and produced well-marked workers. When removed from the swarm, she had ceased laying, but commenced again in the nucleus and produced *hybrids*. Does not this show that the old queen was fertilized after the swarm was hived?

I agree with Novice as to the value of the Journal, and believe it to be the best Bee Journal extant.

W. D. WRIGHT.

Knowersville, N. Y., Nov. 1, 1870.

[For the American Bee Journal.]

Again Two Queens in a Hive.

On the 23d of July I opened a hive containing a choice colony of Italians, for the purpose of getting brood for rearing queens. To my surprise, as the season had been very unfavorable, I found four queen-cells sealed, and the combs full of brood. I removed all the cells and one frame of honey, giving an empty one in its place, and let the old queen remain.

On the 8th of August, I had occasion to open the same hive for the same purpose. I then found two queens on the same comb, all quiet and peaceable, with the combs full of brood and eggs. I called for my better half to come and witness it; this was the first case of the kind I had ever seen. I removed the young queen—a very fine one, and gave her to a nucleus, without clipping her wing, as I feared she and not mated with a drone. I also removed one frame of brood from another nucleus. On the 11th and 12th of August, I examined the nucleus, and found the queen was missing, with no signs of her remaining in or near the nucleus. The bees in it had begun to build queen cells by this time.

On the 20th of August, I examined the colony again, and found a young queen *apparently fertile*. I did not see the old queen, and concluded the bees had removed her. August 24th, I examined the hive again, in company with two friends, and found two (2) *fertile* queens.

Now, Mr. Editor, perhaps you or others would ask how I know they were fertile? I answer, from the fact that I removed the old queen whose wing was clipped, and clipped the wing of the young one immediately, leaving her in the colony. She is now laying, and her brood prove to be workers. The old queen was raised in May, 1869, so that it is not from old age that she was superseded; and again she was very prolific—her combs, as I have stated, being full of brood.

Will you give us the cause of two (2) fertile queens being found in one colony?

Could they have raised a queen and she become fertile from August 9th to August 20th?

Remember, that the young queen found with the colony on August 20th was *apparently fertile*; and the one found on the 24th proved to be fertile.

Now, is it not probable that the young queen that was removed and introduced in a nucleus on August 20th, and mated with a drone before

she was removed, had either made her escape from the nucleus or took wing while I was examining the nucleus for her (which I had then to do frequently), and returned to her parent hive?

CHARLES H. KING.

Murfreesboro', Tenn., Oct. 31, 1870.

[For the American Bee Journal.]

"Honor to Whom Honor!"

Mr. EDITOR:—In the June number of the Journal, I found an article on systematic plagiarism that was both true and timely. I had long before felt that it was time that the many able correspondents of the Journal should comment on this; but it is never too late to do right. Where is the bee-keeper who will look back for fifteen or twenty years, and then ask himself where he got his knowledge of bee-keeping, if he knows anything worth naming, who will not unhesitatingly point to Quinby and Langstroth. Well do I remember twenty years ago, when the best guides the bee-keepers had were Weeks, Colton, Miner, Bevan, &c. These were good in their day, because we had no better. But one day, reading the American Agriculturist, I saw announced the "Mysteries of Bee-keeping Explained." I bought the book, and after reading and re-reading, I would not have taken fifty dollars for it if I could not have replaced it. I found Langstroth's work about the same time, or a little later. Now, Mr. Editor, what has been added to those most valuable books? I have purchased everything that I could find, written in the English language, and for my life I can find nothing. And yet, as Dr. Puckett says, the miserable pretenders of the present day would pass them by among the things that were, and take all credit to themselves. Yet every single idea their heads contain was gleaned from Quinby or Langstroth. Now, sir, my motto is, "credit to whom credit is due." Let all the friends of bee-culture everywhere keep the names of two of the greatest of American apiarians before them, whose fame will survive when the miserable herd of plagiarists are forgotten. For myself I shall ever hold them in grateful remembrance. Every young beginner should procure and read their works and digest the instructions well; and they will find the sure road to success.

JOSEPH BUTLER.

Jackson, Mich.

[For the American Bee Journal.]

Natural, Prolific and Hardy Queens.

PART IV.

A continuation of my letter on "Bees in Iowa," page 82, October number, Vol. VI.

As mentioned in said letter, I received an Italian queen, which I proposed to test against my blacks. On the morning of the 11th of June, I started for the express office, nine miles distant. It was quite chilly, and the mercury in the thermometer stood at 34 degrees, only two degrees above freezing. In due time I received my box at the office. After paying the C. O. D., I rapped on the box—not a whiz! Rapped again—turned them over, blew through the cracks, but could get no response. The conclusion I came to was, that I had either a box of dead bees, or their docility or impeccability of temper indicated that I had purity simmered down. I wrapped them up, and for additional warmth placed them under my arm, under my overcoat. I heard nothing from them on the way home; tried, but could not rouse them up; had a fire built, and placed the box over the stove, when the room was well warmed up. To a rap on the box there was a feeble response. I darkened the window and lit a kerosene lamp, and called in several neighbors to see the "big thing." Our private opinion, as then and there expressed, was, that the Italian bee was like the Cardiff giant—"one grand humbug." I placed them back in the box, and set this over the stove, to finish thawing out, while I looked over the back numbers of the American Bee Journal for a sure mode of introduction. Concluded to place the queen, and the bees that came with her, on combs of sealed hatching brood, and not risk her introduction to a strange swarm. Went out and took the best frame that suited me from six hives; placed them in a Casket, put the queen and her bees on them; wrapped them up warm, left them close to the stove, and kept the fire up all day. At dark looked them over, and concluded it was too slow; placed the Casket in an outside case, on a stand; shook the bees from seven hives at its entrance. It being then too dark for them to fly back, they took lodgings for the night, but most of them left the next day. This also being too slow a process to build up, I concluded to introduce them to my swarm under the swarming impulse. Looked through said swarm for their queen, but could not find her, although I tried several times, and darkness put an end that night to further search. Scented the hive containing the Italian queen, and the one I proposed to introduce her to, with sweetened water, *highly flavored with anise*—bees, combs and box. In the morning removed the Casket and hive from the outside case, and placed it some six feet from the entrance to the case, at the end of one of my store shutters, and caged my Italian queen. Here I found the first *advantage of the Italians*—the queen so easily found. After being sure that my Italian was alive and safe, I turned to my blacks, and proceeded to brush them from the combs on the shutter, one by one, until I found and caged the black queen. After putting her in a place of security, I set all the frames with brood in the case, and inserted my caged Italian queen between two combs. The Italian workers staid close by and waited on their queen through all these changes. After again scenting the bees, combs and hive, I closed it up, scented the bees on the shutter, and shook them down at the entrance, when they commenced running in. About every hour or so during the day I scented the bees, combs and hive again with flavored,

sweetened water. At sundown, as the bees had not shown by their action that they had missed their queen, and in putting back the combs I had destroyed even the old queen-cell foundations, I removed the cork from the queen cage, from that end most filled with a mixture of honey and sugar, "thick;" scented the bees, combs and hive again; placed back the cage and closed up the hive for the night. In the morning, after scenting them again, I found that they had liberated the queen and taken care of the mixture. She was thus introduced on the 13th of June: and I scented them several times a day till the morning of the 19th, before I attempted to examine the frames, to see if she was safe and had laid any eggs. On the 19th I could stand it no longer, and must know her fate, then and there. So just as it was getting light I thought I would make the examination, before the other bees were flying, so as not to be disturbed. An examination of the first three frames revealed her personal safety, and that the bees had started queen cells; but it was not yet light enough then to make out if eggs were in them. I kept up the stimulative feeding during the day, and just before sundown made another examination, and found some twenty-five queen cells started, and twelve of them with eggs and larvæ in them. I examined them every day, and continued the stimulating several times a day, until the morning of the 25th of June, by which time the cells with eggs and larvæ in them had increased in number to some twenty-three or twenty-five. At noon, against all the authority of our most respected writers on bee-culture, she led out her swarm—9½ days after her introduction and liberation, and nearly four days before the first cell was capped over. I don't take any stock now in the claim that bees will not swarm until a queen cell has been capped one day. The black queen did not swarm even on the first day after the first queen cell was capped, while raising any of the five batches of queen cells. I secured seven queens from this batch of cells, giving each queenless stock that I introduced them to three or four cells. Of the seven young queens, one was without wings; one became a drone-layer; one, "the most prolific one," laid eggs which would not hatch; four of the seven proved to be as prolific as the best of my old, natural "black" queens. As they mated with black drones, the stocks are hybrid. This queen laid only a few worker eggs during the 9½ days she was in the hive.

After securing her swarm I thought she would do better; but she laid hardly as many eggs during nearly a month as she ought to have done every day. I kept the swarm up by putting in frames of brood. About the first of September she commenced to do a little better than she had been doing. After swarming, I thought I would test and find out if the artificial queens from Italian broods were any better than from black brood. The result is, that from the 1st of July to the 1st of September I succeeded in raising two queens that laid eggs; and five that had not laid any up till the middle of October! seven in all, when last examined, out of about forty hatched. And in the experiment, I totally destroyed several of my best swarms. My natural queens did better. I did not lose one out of twenty-four; and they averaged me about thirty pounds each of strained honey, besides about sixty pounds left in every hive to winter on. The best of the artificial swarms did not collect their living, and the whole of their winter stores had to be given them. Out of all the artificial Italian queens, not one was over one-half or two-thirds as large as either of my natural queens. Any artificial queen that I saw immediately after hatching, did not seem to have hardly any vitality on emerging from her cell; although those that were raised the nearest from the egg, and in large colonies, were both larger, and quicker in their motions. The artificial queens that have vitality enough to live, and are well nursed by their bees, grow to be medium-sized queens.

My Italians grow lighter in color with age, and the one I raised my queens from is not over half as dark now as she was when I received her in June.

My experience in raising queens for the last five years is, that I can raise twenty natural queens, that will be the equal of their mother, to one artificial queen from the same mother that will live until she is two months old, and be one-fourth to one-half as prolific as her mother. With the honey harvest as late as it was this year, my young swarms gave me on an average as many pounds of strained honey as my old stocks, that had not swarmed.

In introducing queens from hive to hive this summer, I found that by scenting them with anise, in sweetened water, a day or two—both hives—the queens can be changed about without the least danger. I introduced nearly twenty queens to strange hives this summer, some fertile and some not impregnated, without losing one; and it was only my Italian that I was breeding from that I took the precaution to cage. By getting both queens of one scent, and shaking the bees on the ground in front of the hive, and placing the introduced queen on a frame of brood in the hive, after the bees have been well fed, seems to be without any danger—although for a valuable queen the caging for twelve hours is the safest.

In overlooking my bees I made all the colonies average nearly sixty pounds each. In this country they do not gather much honey, if any, from the 1st of September to the middle of July. At least, for four years back they have not done so.

My next communication will contain my experience and method of artificial swarming.

I have come to the conclusion, from my summer's experience, that the Italians are better than the blacks, on all but two points. I do not believe that they will prove any more prolific; and they stick too fast to their combs. One thing is sure, your bees must be all one or the other, or the hybrids will soon clear them out.

My Italian that I received from Charles Dadant was a young one, of this year's raising; consequently, could have been only a few weeks old when received. As she was the most unpro-

lific queen I have ever had that lived as long as she has, I think that the chilling she received in her transit from Hamilton, Ills., to Winthrop, had a great deal to do with her extreme unprolificness, in the way Mr. Langstroth mentions in his work. Her queens—"artificial ones"—were all duplicates of herself, for size and color. As for fertility, none went into brooding early enough to pass judgment thereon, except that they were not as forward as her natural ones, for long before my natural queens reached the age at which the artificial one commenced laying, they had filled up their hives with brood.

The black queen, that I removed from the swarm under the swarming impulse, I introduced to a medium swarm without a queen. I gave them three frames of brood and two of honey, placing the two with honey one at each side of the three with brood, and filling up the sides with five empty frames. Thirteen days after introduction she led out her swarm. So you see that the five weeks' swarming fever was not to be broken up by the change. I destroyed the queen cells at her introduction, and there was no uncapped brood in the hive at the time. Two days after her introduction I found her eggs in the cells; and the hive having only three frames for brood and five empty frames. I did not look for a swarm. The swarming was a surprise to me. As one man in the illustrated Bee Journal has gone so far as to inform us that the queen never lays an egg in a queen cell, and that the bees never carry the eggs to them, but that the bees *always* make a queen cell over worker brood—if he will next spring follow my directions, as given in the July number of the American Bee Journal, and examine the combs three times a day, he will see the *queen cells* commenced and in *all stages*, until the eggs are in them. Then he can watch their development until they are capped; and he will then see that a swarm under the swarming impulse always commence their cells several days before the eggs are in them. Only bees forcibly deprived of their queen, or bees preparing to supersede an old queen, transform worker cells to queen cells.

As I have not come before the bee-keeping community with a secret process for raising better queens than other breeders can, and am not prepared to go into the queen-breeding business this next season, bee-keepers who still think that I may be mistaken in the result of my experiments need not take it on faith, but can verify all for themselves, and get queens that are worth several times as much as any forced one they ever raised, and at less expense and with a great deal less trouble. Hoping that some reliable breeder will conclude to fill a demand already made for queens by this process, I remain yours, as ever, JOHN M. PRICE.

Buffalo Grove, Iowa.

Never, under *any* circumstances, take so much comb and brood from your stock hives, as seriously to reduce their numbers. This should be to the apiarian as "the law of the Medes and Persians, which altereth not."—*Langstroth.*

[For the American Bee Journal.]

Supplement to Alley's Offer.

(See Dec. No. page 137.)

I will send by mail a choice Italian Queen to each of those persons sending in the fourth, fifth and sixth largest lists of new yearly subscribers to the American Bee Journal.

To each of the first twenty persons who forward their subscriptions to me, I will send one choice Italian queen for one dollar.

All over twenty and up to one hundred, may each have one queen for two dollars.

This offer is limited to new yearly subscribers and February 1, 1870. Two subscribers at six months each, will be reckoned as one yearly subscriber.

Here is a chance to get the Journal at cost, and queens at greatly reduced prices.

This offer is made to aid the circulation of the American Bee Journal, and not from any lack of customers, as I have never been able to supply the demand, and during the past season could not send one-third of those desired from my apiary. Right here let me say a word on sending queens. Out of over one hundred sent by mail the past summer, only two or three sent this side of the Mississippi were reported weak on arrival, and *none dead.* Of five sent to a distant point, in Missouri, one was weak and soon died, and two were dead on arrival. They were over a week on the way. I continued to send by mail until after the middle of October, and the last seemed to go as safely as any. I think, with due care, they may be sent as early and as long as queens can be raised. The feed supplied is only the best of honey in a piece of sponge; and in cool weather an extra covering is placed on the box.

J. L. HUBBARD.

Bricksburg, N. J., Dec. 7, 1870.

[For the American Bee Journal,]

A Puzzle for young Bee-keepers.

A honey bee came to visit her humble bee cousin, one morning, as the young bees, just emerged from their cells, were crawling about rather helplessly.

"Sorry," said the bustling humbler, "that I can hardly find room for you to get a seat. Have you as large and bustling a family at home?"

"Ha, ha," replied the bee, counting the wriggling throng, "let me see, the one-third of our number is just as many thousands as you have individuals here; and the one-fourth of your number is exactly the twelve-thousandth part of ours."

Of how many was each family composed?

FUCUS.

THE AMERICAN BEE JOURNAL.

Washington, Jan., 1871.

☞ When this number of the Journal went to press, no account of the National Bee-keepers' Convention, held at Indianapolis, on the 21st and 22d ult., had reached us. We shall probably receive its proceedings in time for our February issue.

Another National Convention of Bee-keepers is called to meet at Cincinnati, Ohio, on the 8th and 9th of February next; and of its transactions, also, we expect to receive an account in due season. We trust that it will be composed mainly of true hearted, intelligent, and experienced apiarians, impressed with the conviction that the prime object of such Conventions is to promote BEE CULTURE, and not to foster *kingcraft*.

☞ Stimulative feeding, for the production of early brood, should not be resorted to by any who have not resolution, energy and perseverance enough to continue the process regularly, till the object aimed at is fully attained, and the bees are able to supply themselves from natural sources. To stop feeding after much brood has been hatched under stimulation, may easily lead to the destruction of a colony, by the exhaustion of the stores on hand, which, in other circumstances, would have enabled the colony to reach the opening spring in safety.

The Foulbrood Cure.

We were gratified in receiving from Dr. Abbe the subjoined letter, giving an account of a quite recent experiment for the cure of foulbrood; also the piece of comb referred to, taken from one of his hives. The comb appears to have been thoroughly cleansed by the bees, and prepared for renewed service. We shall carefully preserve it, and after spraying it again in the spring with the solution of chloride of soda, insert it in a healthy hive and report the result.—To cure the disease and save the combs in a safe condition for future use, is the great desideratum, and we hope that another season will suffice to demonstrate that this has been attained.

NEW BEDFO D, Dec. 14, 1870.

DEAR SIR:—I send you to-day a piece of comb, with the following history: In looking over my bees for the last time, about the middle of November, I found one sheet of comb badly affected with foulbrood, in a hive which I had supposed entirely pure until then. As I was in some hurry, I used the atomizer, with the solution of chloride of soda, with the bees clustering on the comb, and as it was rather cool, they did not move out of the way as readily as usual. In a few days it grew warmer, when I again removed the frame, with the intention of shaking off the bees, to give it a more thorough examination, as I feared that there were some cells containing foulbrood, which had escaped observation in my former haste; but with the first shake the whole comb, which was very heavy, broke from its fastenings. I removed the empty part, intending to put it in a nucleus hive next summer, with a fertile queen and pure honey, to test whether foulbrood would re-appear in it; but on the whole have concluded to send it to you. It was nearly filled on both sides with the disease, but I found (as I thought I should) a few cells which I had not medicated, and which now remain as they were at that time—one of them capped and the others with the dead larvæ dried up. All the rest the bees have thoroughly cleansed, so that not even a suspicion of foulbrood is left behind. A second medication would have made it perfect.

You are perfectly aware of the great reluctance of bees for cleansing cells which are filled with this disease; but after spraying the comb with the soda, they have no hesitation in making a thorough house-cleaning.

I have stored my sixteen swarms in my Novice bee-house, which, by the way, works like a charm; and although six of them have been diseased, some of them badly, I think that no person can find a trace of the disease left; all the combs being as clean as the clean part of the specimen I send you. Whether or no the disease is locked up in the capped honey cells, to re-appear in the spring, time alone will show.

If this disease, which has raged with me, is a mild form of foulbrood, I pity those who have it more malignantly. Yours, very truly, E. P. ABBE.

Many practical bee-keepers are of opinion that pollen is not indispensably necessary for bees during the winter, and experiments have shown that all the essential operations of a colony may proceed from October to May, or fully six months, though the hive contains not a particle of pollen. It seems certain, nevertheless, that ordinarily bees do consume pollen during all the winter months, except, perhaps, in November; at least Dr. Dönhoff, examining the intestines of bees, found traces of pollen therein at all times, except in that month. He communicated this fact to Prof. Leuckart, who confirmed it by his own independent observations, but shortly after discovered that the mucous tissue, lining the intestines, undergoes decomposition and renewal annually—the sloughing off, or moulting, as it might be called, commencing at the end of October and terminating about the beginning of December; thus coinciding in the main with the period in which Dr. Dönhoff could detect no evidence of pollen in the intestines. Hence the presumed non-consumption of pollen in the interval may have some connection with the abnormal condition of the insect at that time.

It is somewhat surprising that professed entomologists, who can tell us precisely how many joints there are in the antennæ of queens, drones and workers, and describe minutely how the nervures of their wings are arranged, and how the various sub-divisions are named, have so imperfect a knowledge of the natural history and habits of these familiar insects, which they have almost daily opportunities for studying. Thus, in one of the latest and most elaborate treatises on BRITISH BEES, speaking of the queen of the honey bee, the author tells us—"the number of eggs she will lay in a day is *about two hundred.*" Again, referring to the queen's ovipositor, he says—

"it is possibly, from some taction of this instrument, that she discerns the *sizes of the eggs*, and thence *their respective sex*." And, finally, "she lays about ten or twelve thousand eggs in six weeks, depending much on the propitiousness of the season"; his estimate of the extent of her faculty in this line being based on what she produces in April or May, "as it *slumbers during the summer heat*, and *revives again in autumn*, but *totally* terminates with *the first cold weather*." So much for studying a subject with the aid of musty old volumes alone, instead of resorting to a movable comb-hive for instruction, and using one's eyes diligently, even at the hazard of a few stings.

During the solar eclipse, July 18th, 1860, Miller, a German botanist, observed issuing from the leaves of the Norway maple (*Acer platanoides*) a fine spray, consisting of minute vaporous saccharine particles. Next morning innumerable aphides appeared, imbibing the excreted sugar—clearly showing that they were not the cause of the saccharine suffusion, as is commonly supposed. No more satisfactory explanation of this phenomenon has yet been proposed, than that the sugar in the sap of the tree is produced too rapidly and too plentifully, by the conversion of starch, to be duly appropriated by the absorbent vessels of the cellular tissue, and is then excreted through the minute pores of the leaves. Whether this accounts for "the milk in the cocoanut" we shall leave for those to decide who are skilled in vegetable physiology.

CORRESPONDENCE OF THE BEE JOURNAL.

SPRINGFIELD, Ills., Nov. 17, 1870.—I became interested in the bee question about the 1st of July last, and immediately subscribed for the American Bee Journal, since which time every article has been carefully perused, and most of them re-perused. Enclosed please find two dollars, for which send me Volume V. of the Journal. It seems long to wait from one month to another for the welcome numbers to arrive, so the only alternative seems to be, to take the "back track," and "read up" the back volumes.

I obtained five small, late swarms, during the very dry season, and as Langstroth says, "to build up small colonies by feeding requires more care and judgment than any other process in bee-culture," and being entirely ignorant of the manner in which the judgment should be used, I concluded to let all but one "build up themselves." The result was, they neither made honey nor comb, and literally starved to death, and "went the way of all the earth." To the fifth I fed syrup of sugar, and thrived pretty well, and is now my only swarm. But I am not weary in well-doing; have engaged some more swarms for the coming year, and hope, with the experience of the past season, and the information gathered from the pens of Langstroth, Quinby, Novice, Gallup, Alley, and the many other practical and interesting writers of *our* Bee Journal, to succeed better in future.

I was very much interested in reading Dr. Abbe's article on foulbrood. I have never seen a case of it, and hope sincerely I never shall; but believing it to be caused by parasites, or living germs, and having had an extensive experience with sulphite and hyposulphite of soda in the destruction of germinal and parasitical life, it struck me very forcibly that the doctor had made a "happy discovery," and that we should now say to foulbrood, that "fell destroyer" of the bee family, "thus far and no further."—H. O. BOLLES.

BLOOMFIELD, Canada, Nov. 17.—No intelligent apiarian should think of doing without the American Bee Journal—Bees did very well in this section. We have about sixty stocks, all more or less crossed with the Italian. They are very heavy. The brood combs are nearly all full of honey, and capped over.—S. J. BOWERMAN.

WAVERLY, Iowa, Nov. 23.—Send along the American Bee Journal. Those who keep bees, and don't take the Journal and pay for it in advance, deserve to have all drone-laying queens next summer. The first frost we had was on the morning of October 13, and the first flake of snow November 13. When strange bees get into a hive to rob it, do they first attempt to kill its queen, or do they go for the honey? I received ten queens from Adam Grimm, and introduced them for my friends, except one, which I put into a nucleus, and the robbers pitched in, and before I knew of it had taken all its stores. I set them in my dark bee-house, but they all got out through a crevice and left, and I found no more queen.—H. K. SWETT.

DAYTON, Ohio, Nov. 23.—Bees in this vicinity did but poorly the past season. Cause—a late and cold spring, with a very dry summer and fall.—E. D. PAYNE.

BUSHKILL, Pa., Nov. 25.—I have over one hundred colonies of bees, and should like to raise something that will produce bee-pasturage in the interval between the white clover and buckwheat. I would like very much to try the partridge pea, spoken of in the November Journal.—W. SCHOONOVER.

NEWBURY, Iowa, Nov. 25.—The past season has been rather a good one, in our locality, for bees, although mine did not store very much surplus honey. They swarmed rather too much. I had twenty colonies in the spring, and they cast off thirty-eight swarms, all of which are strong enough and rich enough in stores to winter well—except only three. Please send along the Bee Journal, for I cannot afford to do without it.—A. SNYDER.

GEBHARTSBURG, Pa., Nov. 26.—Bees in this section have most generally proved successful this season. Those that were managed on improved principles have demonstrated that bee-keeping pays for proper attention. The bees that were left to themselves (and, I am sorry to say, the greater part are so left), did as well as could possibly be expected, considering the condition they were in in the spring. My bees have done far better than I expected, yet I cannot crack up with as big figures as some of my friends in the Journal. I would say, however, that I am satisfied with the result, and with the help of the Journal, and continued good health, I will endeavor to improve every opportunity that may offer.—W. BAKER.

WHITNEY'S POINT, N. Y., Nov. 28.—Bees have done very well here. The weather was warm and pleasant here yesterday and to-day, and bees are having a good time, flying.—F. M. DICKINSON.

ATCHISON, Kansas, Nov. 29.—The past season was not good for bees here; but we made enough honey to satisfy ourselves that without a honey-slinger it

would have been poorer still. We only find trouble to decide on the hive which is best adapted to the slinger.—J. BELZ.

BATAVIA, Ills., Dec. 9.—I received two Journals this week, and concluded No. 2 was sent expressly to have me get you a new subscriber. So I went directly into the street, and did not return till I had secured two subscribers. Now, Mr. Editor, if each one of your patrons will do the same, you will have a good addition to the number of subscribers for your valuable paper. The American Bee Journal is a paper which all bee-keepers should have, and a little exertion by each one of its patrons will give it a good circulation. I like Mr. Alley's movement, and will do all I can for the Journal. I should be glad to have it come twice a month. My bees are all quiet in their winter quarters, with plenty of stores to carry them through the winter. It has been a poor season for bees in this section, because of the dry weather; but I am glad to see my brother bee-keepers prospering in other sections.—W. J. FRAZIER.

NORTHFIELD, N. H., Dec. 9.—I am much pleased with the American Bee Journal; think it a very desirable publication, and hope will soon be able to send it out oftener than you are now able to do.—A. P. CATE.

SMITH'S MILLS, Pa., Dec. 10.—Bee-culture in this section of the country is very much behind the age; still there are many persons who are using the movable-comb hive. Bees did well this summer, more particularly in casting swarms. They worked very late in the season. On the 3d of November they were very busy in carrying in pollen, although we had a number of frosts. They built comb and stored honey the last week in September, and worked, more or less, all through October. With this you will find a specimen of the flower on which they worked strong. [It is the New England Aster, or *Aster ericoides, L.*] Some one, at one of the Bee-keepers' Conventions, said that the bees will collect honey from the Spanish Needles. The weed is quite a pest in this section, and during the summer I made it my business to watch for bees on it, but never found one. I do not think they will touch it.—J. S. MCKIERNAN.

NUNDA STATION, N. Y., Dec. 12.—I do not know how I could get along without the Journal. My bees have done exceedingly well the past season. I commenced in the spring with nine colonies, and have increased them to seventeen, and have taken over seven hundred (700) pounds of surplus honey from them. One new stock filled one of H. Alley's Langstroth or Bay State hives, and made over seventy pounds of box honey. Wishing success to the American Bee Journal, I close.—J. A. THOMPSON.

EAST SAGINAW, Mich., Dec. 12.—Allow me to acknowledge, in few words, the fairness, honesty and promptitude of Mr. Adam Grimm, of Wisconsin, and the purity of his Italian bees.—J. CARR.

NEWTON, Iowa, Dec. 13.—Our bees are out of doors yet, the fall weather has been so fine. In some localities in our county bees did well last season, but in others rather poorly. Some old bee-keepers say they never knew so poor a season. Very few natural swarms issued—probably not more than one to a hundred hives. Those bee-keepers who did not understand dividing lost by getting no increase. Colonies that were divided early did very well. All hives were full of honey last spring, and with all the increase of swarms, there is probably not as much honey now in the county as there was on the 1st of April last. The season of 1869 was exceedingly wet, and that of 1870 extremely dry. We are all hopeful for the season of 1871. I wintered thirty colonies last winter, one-half of them in my cellar and the other half in a small room up stairs. All came out in good order, nearly as heavy in the spring as when put away, and, I think, with many more bees. I divided one hive May 15th, and three times more during the season, and also divided the first three swarms—thus making eight from one, and all as strong as any of those that were divided only once. Was the queen the sole cause, or why so much difference from other hives, apparently as strong both in bees and stores? Our State Convention meets at Des Moines next Thursday, 15th inst. You will, no doubt, be favored with what the combined wisdom of Iowa apiculturists shall devise. I trust that our experienced ones will so ventilate the subject that an increased impetus will be given to the science in our young State, and of course the American Bee Journal get an increased number of subscribers. Please tell us, or ask Novice, or some one else who knows, where we can get the best jars for honey, and the price of pints, quarts, etc.—C. J. HOUSEL.

MOUNTJOY, Pa., Dec. 13.—I enclose two dollars for the American Bee Journal, which I think is not fooling the money away for nothing. The Journal is worth twice its cost. Bees did poorly here last season. The white clover had very little honey, and the grasshoppers destroyed the second crop of red clover. It was all grasshoppers in the field but a little, and that was grasshoppers. I have forty-two colonies, which have all enough to carry them through the winter, except a few, to which I will give honey in combs. Long may live the editor, to publish the American Bee Journal.—J. F. HERSHEY.

VERMONTVILLE, Mich., Dec. 14.—I first became interested in bee-keeping by reading the article of Mrs. Tupper, on that subject, published in the Report of the Department of Agriculture, in 1865. Last spring I commenced in a small way, but having no practical knowledge, and but imperfectly understanding the written theory, as might be expected, "made a bad botch of it." Yet, as I never succeeded in anything at the first attempt, I am not discouraged, and, like Mordecai at the King's gate, am determined to "hold on" and persevere. I have read the Bee Journal attentively the last year, and like it. Enclosed find four dollars, for which please send Journal the next year to myself and my friend. I double the subscription list in this place, as you see, which in multiplication of stocks, is by best authorities considered a safe rule for beginners. I suppose that, with your longer experience, you could perhaps manage a larger increase successfully, but for this year must be be content with "making haste slowly."—H. J. MARTIN.

[We should be perfectly content with a like rate of annual increase all through the mail book.—ED.]

ATHENS, Ohio, Dec. 19.—The past season was a most remarkable one. Scarcely any rain fell from May to December, yet the honey crop was most splendid in quality—almost able to stand alone when raken upon the knife. The months of May, June and July were unusually warm, with an unusually humid atmosphere, which must account, I think, for the remarkable secretion of so much fine honey. The year 1869, though hot and dry, with an entirely different atmosphere, produced honey that appeared determined to escape the jaws of death, by escaping from the combs, running out of sight—so much so that I had great difficulty in getting it to market. Verily, is there not much yet to be learned on this subject?—J. W. BAYARD.

[For the American Bee Journal.]

To guard against Swarms leaving for the Woods.

MR. EDITOR:—I will give your readers a little sketch of the main cause of bees leaving for the woods in swarming time,

I can say I have lost only one swarm of bees in more than twenty-five years, and can give the reason for that. I was absent, shearing sheep, a few years ago, and left some of the little folks to watch my bees; but they did not watch close enough to see them come out and settle. So when the swarm was ready to seek a new home, it came right by where I was at work, and that was the last I saw of it. They were gone, like the fellow's sheep; and sure enough when I returned to my apiary, I found it was my swarm that had left. I saw a few bees still flying about a limb, and when I went there to examine, I found little particles of wax stuck all along the limb where the bees had clustered.

In another case I know of, the hive was rather small and the covering got knocked off on a very hot day. The bees became so heated in the hive that they left for the woods. They had been only about ten days in the hive, which was mostly filled with combs and honey; yet almost every bee left.

The cause of their leaving thus, is that when swarming in hot weather, and hived, the hive is left standing in the sun without shelter, and the hive gets so heated that the bees are almost suffocated, which compels them to come out and seek for some cooler place.

When hiving a swarm, as soon as nearly all the bees are in, especially the young ones, though there should be some hundreds of the older ones still flying, I pick up the hive and carry it to the place in my stand where I intend it to remain for the season, cover it well, and set up a board or other screen on the west side to shelter it from the hot evening sun; that is, if I have no shed to set it in. I know of lots of swarms that went to the woods in this section, just from being unprotected from the hot sun after hiving.

I sold a man, living about a mile from here, a colony of Italians, two years ago, and he came running to me to say that one of his neighbors told him that the Italian swarms would all go to the woods, and he was afraid it was too true. I asked him where he set them when he put them in a hive, and he said, "Just where they lit on the tree." "Did you cover them to keep the hot sun off?" "No," replied he, "I did not know that that would hurt them;" though the weather was almost hot enough then to cook them. He sold out to another man this summer, whose first swarm served him the same way. He came running to inquire what was the cause of his bees leaving him, and said one of his neighbors told him they had left the year before in the same way. I asked him if he didn't leave them setting in the hot sun; and he replied that he did.

Another colony that I sold to another man, left in the same manner, and from the same cause. A man living about five miles from here lost seven or eight swarms this summer, under like circumstances; but not one swarm out of a hundred will desert, if properly attended to in due time. I use no looking-glass, or old bells, or anything of the kind, when hiving swarms, but only give them a good clear hive, and a good roof over them to keep off the rain and the hot sun, thus making them comfortable in their new home.

There is much superstition among bee-keepers in some districts. They have singular notions of witchcraft, and queer ideas of luck, such as selling or buying a man's luck. So, too, it is believed by many that if the head of a family dies, the bees will die too. In this there is just so much truth that the head of the family is generally the bee-keeper, by whose care and attention the bees were kept in a thriving condition; and when he dies, the rising generation don't attend to them, and the result is the bees die, and the story stands afresh—"there's no luck for bees when the father dies!"

All this notion of selling luck is a mere humbug. I will and do sell bees whenever I can make something out of them, or get for them nearly what they are worth. Bad luck arises only from no management or mismanagement. Good management always makes good luck, for the Higher Power has promised to give seed time and harvest to the end, and sendeth rain on the just and on the unjust. ALFRED CHAPMAN.

New Cumberland, West Va., Nov. 28, 1870.

[For the American Bee Journal.]

Balm used for Alighting Bees. An Inquiry.

MR. EDITOR:—Over forty years ago, my father, in Canada, kept a few bees for a term of years. When they swarmed, we were accustomed to pick a sprig of balm, and go as near as convenient to the main body of the bees and select a limb of a fruit tree convenient to hive them from, and with one hand rub on the balm; and if the bees alighted *near* the place, it was always on the very limb and place thus rubbed. The balm was called Low Balm or Bee Balm. It was perennial, and always large enough for use at swarming time. If any one has knowledge of the *kind*, and of its use as above, I shall be happy to be informed. I have not found the right kind here. In the Journal for December, Vol. VI, page 120, there is a notice of balm (*Melissa officinalis*,) as having an agreeable smell for the bees. Perhaps that is the kind. Who will tell, and also where it is to be had?

ALONZO BARNARD.

Bangor, Me., Dec., 1870.

[For the American Bee Journal.]

MR. EDITOR:—As several parties are inquiring if there is a Bee-keeper's Association in Ontario, I would answer through the Journal, "There is, and it meets annually at the time and place of the Provincial Fair. Next year it will meet at Kingston, Ontario. President, Rev. W. T. Clark, Guelph; Vice President, J. H. Thomas, Brooklin; Secretary, A. C. Atwood, Vanneck." J. H. T.

Bee-Keeping.

There is one variety of "stock" raising which is causing quite a stir in the the agricultural world. We refer to bee-keeping: not simply the keeping of two, three, or even a dozen hives, but three, five, or ten hundred. That our broad prairies, with their countless thousands of flowers, will afford an abundance of forage, there is no doubt, but bee-keeping, like cattle-raising, or cheesing-making, or, in fact, any other branch of farming, requires much skill, tact and judgment—more, in fact, than every man can bring to his disposal. Then there are some who will be benefited by investing in bees.—*Kansas Farmer.*

Horace Greeley's Essays, "What I know of Farming," which have been published in THE TRIBUNE every week during 1870, are to be printed in book form, and a copy will be sent, post-paid, to each subscriber who sends $10 for THE DAILY, $4 for THE SEMI-WEEKLY, or $2 for THE WEEKLY TRIBUNE, and requests the book at the time of subscribing. This will enable old subscribers to secure the Essays for preservation, on renewing their subscriptions, and new subscribers will, of course, be glad to obtain them, free of cost.

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ILLUSTRATED CATALOGUE

OF

GARDEN AND FLOWER SEEDS.

Having in former years introduced to the public the Hubbard Squash, American Turban Squash, Marblehead Mammoth Cabbage, Mexican Sweet Corn, Phinny's Water-Melon, Brown's New Dwarf Marrowfat Pea, Boston Curled Lettuce, and other

NEW AND VALUABLE VEGETABLES,

with the return of another season I am again prepared to supply the public with Vegetable and Flower Seeds of the purest quality. My Annual Catalogue is now ready, and will be sent *free* to all. My customers of last year will receive it without writing for it. It abounds in fine engravings, many of which were taken from photographs of the vegetables themselves. It has not only all novelties, but all the standard vegetables of the farm and garden, (over one hundred of which are of my own growing,) and a carefully selected list of Flower Seeds.

All my seed is sold under three warrants,—1st: *That all money sent shall reach me.* 2d: *That all seed ordered shall reach the purchaser.* 3d: *That my seeds shall be fresh, and true to name.* I invite all to send for catalogues, both for themselves and their friends.

JAMES J. H. GREGORY,

Jan. 1871, 3t. ***Marblehead, Mass.***

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Jan. 1871, 3t.

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Bee-keepers desiring Honey Extractors would do well to send to the undersigned for Illustrated Circular before purchasing elsewhere. It contains testimonials from the most prominent Bee-keepers in the country who have the machine in use.

Price of Extractor including 2 knives.	$15.00
Knives sent by mail Post Paid.	1.25
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J. L. PEABODY,

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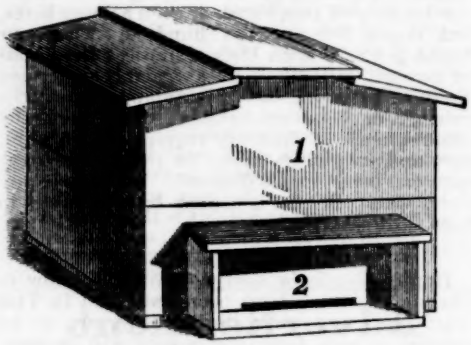
BAY STATE BEE HIVE.



Bee-keepers in want of the BEST HIVE in use, cannot do better than to send for a sample of the

BAY STATE HIVE.

Hundreds of them are now in use. This hive exceeds all others yet introduced in the following respects:—

1st. One-third more honey can be taken from this hive, in boxes, or by the use of the extractor, than can be done by any other hive in use.

2d. It will winter a stock of bees better, on their summer stands, than any other hive possibly can in the best cellar or depository.

3d. It is better adapted to the wants of the bees and bee-keeper than any other hive extant.

4th. The surplus boxes are placed nearer the brood than they can be in any other hive.

5th. It has more room for surplus boxes; they are more easily removed; and the honey is stored in better marketable form. In fact, it is the *best and cheapest hive* in use, everything considered.

It needs no bee-house, summer or winter; and the bees will not "lay out" during hot weather, when the boxes are on.

For a full description, prices, &c., send stamp for my new circular.

H. ALLEY,

Wenham, Essex Co., Mass.

Nov. 1870—tf.

BEES!

The New Circular of Quinby & Root, for 1871, is now ready. Contains prices of Italian Colonies, Queens, Hives, Boxes, Queen yards, Melextractors, Honey-knives, Bee-veils, &c. Send stamp to

QUINBY & ROOT,

St. Johnsville, N. Y.

[For the American Bee Journal.]

A Nut for Novice & Co.

This 4th day of March, when examining my stocks, I found No. 10 had a large quantity of brood in all stages. The nut to be cracked is this: I could discover only one queen, and yet of the three dozen workers which I *saw* hatch out, there were some three banded, some two banded, and some no-banded. Will Novice, Gallup, and Grimm, each be so kind enough to give his individual opinion in the next number of the American Bee Journal, why the worker progeny of a queen, hatching all at the same time, are so differently marked; and oblige

TYRO.

Advertisement.

Territory for the "THOMAS' HIVE," in Illinois, Iowa, and Missouri, can be obtained of

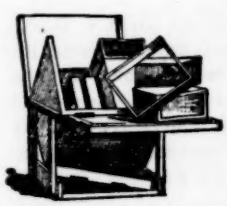
PALMER BROS.,
New Boston, Ills.

☞ Send stamp for circular.
April, 1871.—3ms.

Italian Queen Bees.

I shall breed ITALIAN QUEEN BEES for sale the coming season, from Imported Mothers of undoubted purity. My patrons may rest assured of being honorably dealt with. Orders solicited. Send for circular.

WM. W. CAREY,
Colerain,
April, 1871.—5ms. Franklin Co., Mass.



The NEATEST, CHEAPEST and BEST

SUMMER & WINTER HIVE,

Securing the straightest combs in the Frames, and the easiest frame to remove, with the largest space for surplus boxes, is the

DIAMOND FRAME HIVE.

Hives and Territory for sale.

☞ Send stamp for Circular and Price List of Pure Italian Queens, Bees and Hives.

DR. A. V. CONKLIN,
Bennington, Morrow Co., Ohio.

ITALIAN BEES.

Full Colonies in spring and fall; and Queens throughout the season. Circulars sent free.

Address, R. M. ARGO,
Lowell,
April, 1871.—3ms. Garrard Co., Ky.

ITALIAN QUEEN BEES FOR 1871.

I would respectfully inform my former patrons, and all others who wish to procure highly-colored and prolific Queens, that I am prepared to fill all orders for TESTED or WARRANTED QUEENS, without delay. Queens raised in full colonies. Satisfaction guarantied. Circulars for 1871 sent free. Address,

GORDON BOUGHTON,
P. O. box 74,
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R. R. Murphy's Honey Extractor.

The best, most durable and cheapest geared machine in the market. It will empty more Honey, with the least injury to the comb, in the same length of time, than any other machine now in use.

Send stamp for terms. Address,

R. R. MURPHY,
April, 1871.—2ms. Fulton, Ills.

(ADVERTISEMENT.)

ITALIAN QUEEN BEES.

☞ *One home-reared Queen and the American Bee Journal* one year for $6; or one Queen without the Journal for $5.

Price of *imported* Queens regulated by cost and loss in importing.

Circulars sent free. Address,

H. NESBIT,
April, 1871.—tf. Cynthiana, Ky.

COMB GUIDE PRESS.

With this instrument a child can put Wax Comb Guides on twelve frames in five minutes.

Price of the instrument, delivered at the Express office, $1.25. Send stamp for a sample.

COMB-FASTENING PRESS.

This implement fastens quickly and substantially Dry Combs, or Comb Foundations, in the frames. Price, $2.

Comb-Guide Press and Comb-Fastening Press, together, $3. When ordering, send the inside length of the top bar of your frames.

Patent solicited.

CH. DADANT,
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A. GRAY,
Formerly of Reily, O.

1871.

J. W. WINDER,
Of Cincinnati, O.

IMPORTERS & BREEDERS OF

ITALIAN QUEEN BEES.

We would respectfully announce to our bee-keeping friends of America, that we have our arrangements completed to breed our Queens in Ludlow, Kentucky, opposite Cincinnati, isolated from all impure stock; which is a great advantage to our patrons as well as to ourselves.

Our Queens will be bred from imported stock, from the apiaries of Dr. Blumhoff, Prof. Mona, and Edward Uhle, of the highlands of Italy. All our Queens sent from the apiary are WARRANTED PURE, and satisfaction guaranteed.

Prices to suit the times.

April, 1871.

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This melextractor is now perfected and offered to the bee-keepers of America for the first time. This machine is made of heavy tin, and well painted or japanned (except the wood work). It is very light, and can be sent by Express, without packing. It was exhibited for the first time at the Cincinnati Convention of Bee-keepers, and was very highly recommended by all the bee-keepers present.

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We also manufacture this new apparatus for extracting Wax from old and worthless combs, which has now been fully tested. Mr. A. Grimm writes us that he has extracted two hundred and six (206) pounds of the nicest Wax he ever saw, although some of the comb was from ten to twelve years old; and that the bee-keepers of America owe Mr. Gray many thanks for importing and introducing so useful an invention. Every apiarian should have one of these Wax Extractors.

For further information of the above machines, send for descriptive circular, free.

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GRAY & WINDER,
132 West Fourth Street,
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April, 1871.—6ms.

PRICES OF BEES AND QUEENS,

For the Year 1871.

FULL COLONIES of ITALIAN BEES, with tested pure Queens of last summer's raising, in a Langstroth movable comb hive, for 8 frames full of comb, and honey enough to last until May 20th, I will deliver at the Express office at Jefferson station, between the 20th of April and June 1st, for $15 each.

Six Colonies for $14 each.
Ten Colonies for $135.
Twenty Colonies for $250.
Any number above twenty at $12 each.

ITALIAN QUEEN BEES, whose worker progeny has hatched in my apiary, and shows by its marking that they have met with an Italian drone, I will sell at the following prices:

If sent from April 20th to May 5th, $8; May 5th to June 1st, $7; during the month of June, $6; during the months of July, August, and September, for $4. If from ten to twenty queens are ordered, a reduction of 10 per cent. will be made; if above twenty, a reduction of 20 per cent. Untested Queens, whose purity I guarantee, I will sell after June 25th for $2.50 each.

All Queens will be sent by mail post-paid. The box or boxes in which the Queens are sent must be opened in presence of the Postmaster, and a certificate from him must be sent by return mail, if one or more of the Queens should have died during shipment; on receipt of this certificate from the Postmaster, another Queen will be sent, or the money refunded.

YOUNG SWARMS OF ITALIAN BEES, medium sized, with a tested pure Queen of last summer's raising,—sent in a common shipping box, with feed enough to stand the journey.—if shipped before June 25th, will be sent for $9; between June 25th and July 10th, for $8; from July 10th to August 1st, for $7; and after that time for $6.

All claims on account of impurity of Queens or Stocks must be made within 40 days after receipt of Stocks or Queens, or they will not be noticed.

In some cases, where claims are made on account of losses incurred during shipment, I will demand an affidavit setting forth the facts in the case, before I will satisfy the claims.

Safe arrival and purity guaranteed in every shipment. The cash must accompany every order, or it will not be noticed.

ADAM GRIMM.

Jefferson, Wis., April, 1871.